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# TECHNICAL MEMORANDUM

## X-651

STATIC STABILITY CHARACTERISTICS OF A DELTA-WINGED  
CONFIGURATION WITH A CANARD CONTROL AND  
NACELLES AT MACH NUMBER

FROM 0.25 TO 3.50

By LeRoy S. Fletcher

Ames Research Center  
Moffett Field, Calif.

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FROM 0.25 TO 3.50\*

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SUMMARY

A wind-tunnel investigation of a delta-winged configuration was conducted to determine the longitudinal and lateral-directional static aerodynamic characteristics. The model fuselage consisted of a circular-arc ogive forebody with a cylindrical afterbody. The triangular wing, canard, and vertical tails had hexagonal airfoil sections which were 3 percent thick from 30 to 70 percent chord. The canard area was 10 percent of the wing area. Data are presented without analysis for various combinations of body, canard, wing, and single and twin vertical tails. The canard deflection angles varied from  $-4^\circ$  to  $+12^\circ$ . Angles of attack and sideslip ranged from  $-4^\circ$  to  $+10^\circ$  and from  $-4^\circ$  to  $+8^\circ$ , respectively, over a Mach number range of 0.25 to 3.50.

INTRODUCTION

Recently there has been an increasing interest in the possibility of a supersonic transport and the NASA has been investigating various transport configurations. The present study was undertaken to make available data which would allow some evaluation of the contribution of the components for a fixed geometry configuration to the over-all aerodynamic characteristics of the vehicle. These components provide variables of canard angle, single and twin vertical tails, deflected wing tips, and long or short afterbodies. Since nacelle placement influences the aerodynamic interference effects, the locations of the pylon-mounted nacelles were chosen to minimize the ingestion of the body and wing shock waves and to give some interference lift. No effort was made to

Unclassified



optimize the lift to drag characteristics since the model was evolved as a representative configuration for which dynamic stability characteristics were desired. Wind-tunnel static force measurements have been made at both subsonic and supersonic speeds of a delta-wing and canard configuration having essentially the same forebody fineness ratio, wing and canard aspect ratios, and a canard volume range covering that of the model used for this test. Results of these tests are reported in references 1 through 5. The primary difference in the model described herein is its large fuselage volume. This report presents the static force and moment data without analysis.

A  
6  
0  
0

#### NOTATION

The results are presented as force and moment coefficients referred to the stability system of axes (fig. 1). The moment reference center is located at 25 percent of the mean aerodynamic chord.

a.c. aerodynamic center determined at  $C_L = 0$ , percent  $\bar{c}$

b wing span

$\bar{c}$  mean aerodynamic chord

$\bar{c}_c$  canard mean aerodynamic chord

$C_D$  drag coefficient,  $\frac{\text{drag}}{qS}$

$C_{D_{\min}}$  minimum drag coefficient

$C_L$  lift coefficient,  $\frac{\text{lift}}{qS}$

$C_{L_\alpha}$  lift curve slope at  $\alpha = 0^\circ$ , per deg

$C_m$  pitching-moment coefficient,  $\frac{\text{pitching moment}}{qSc}$

$C_l$  rolling-moment coefficient,  $\frac{\text{rolling moment}}{qSb}$

$C_{l_\beta}$   $\frac{\partial C_l}{\partial \beta}$  at  $\beta = 0^\circ$ , per deg

$C_n$  yawing-moment coefficient,  $\frac{\text{yawing moment}}{qSb}$

$C_{n_\beta}$   $\frac{\partial C_n}{\partial \beta}$  at  $\beta = 0^\circ$ , per deg



$C_Y$	side-force coefficient, $\frac{\text{side force}}{qS}$
$C_{Y\beta}$	$\frac{\partial C_Y}{\partial \beta}$ at $\beta = 0^\circ$ , per deg
$C_{N_C}$	canard normal-force coefficient, $\frac{\text{canard normal force}}{qS_C}$
$C_{h_C}$	canard hinge-moment coefficient, $\frac{\text{canard hinge moment}}{qS}$
A 6 0 0	$\frac{L}{D}$ lift-drag ratio
M	free-stream Mach number
q	free-stream dynamic pressure
R	Reynolds number
S	plan-form area of wing including portion covered by the body
$S_C$	plan-form area of the canard including portion covered by the body
$\alpha$	angle of attack, deg
$\beta$	angle of sideslip, deg
$\delta_C$	angle of canard deflection, deg

The model component designation used in this report is as follows:

$F_1$	long fuselage
$F_2$	short fuselage
$W_1$	wing
$W_2$	wing with deflected tips
$C_1$	canard with body-canard gap open
$C_2$	canard with body-canard gap filled
$V_1$	single vertical tail
$V_2$	twin vertical tails
<del>N</del>	machelles, pylon mounted

APPARATUS

Photographs of the model in the wind tunnel and model dimensional drawings are shown in figures 2(a) through 2(d). The fuselage was built to accommodate an adjustable canard with deflection angles of  $-4^{\circ}$  to  $+12^{\circ}$ . The canard hinge line is located 1.48 wing mean aerodynamic chords ahead of the model moment reference center, and 3.7 percent of the wing mean aerodynamic chord above the wing root chord plane. The wing, canard, and vertical tails had airfoil sections which were 3 percent thick from 30 to 70 percent chord and had symmetric-wedge leading and trailing edges. The forebody was an ogive (circular arc radius of 146.32 inches) and the remainder of the fuselage was cylindrical with a diameter of 3.60 inches. Additional geometric characteristics may be found in table I.

A  
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0  
0

The investigations of the sting-mounted model were conducted in the Ames Unitary Plan Wind Tunnel and the 6- by 6-Foot Supersonic Wind Tunnel. Both tunnels are of the closed circuit, variable pressure type.

#### TESTS

The forces and moments were measured with an internally mounted six-component strain-gage balance. The data have been reduced to coefficient form by standard equations and all coefficients are referred to the stability axis system. The canard support was instrumented to measure the canard force and hinge moments. The resultant coefficients are referred to the canard hinge line.

The model was tested through a Mach number range of 0.25 to 3.50 and ranges of angle of attack and sideslip of  $-4^{\circ}$  to  $+10^{\circ}$  and  $-4^{\circ}$  to  $+8^{\circ}$ , respectively. The test Reynolds number was between 2.0 and 3.0 million per foot as indicated in tables III through XXI. One configuration was tested with artificially induced boundary-layer transition to ascertain the effect of an all-turbulent boundary layer. The boundary layer was tripped by a 1/8-inch band of 0.0215 grit 1/4 inch from the leading edge of the planar surfaces and a 1/4-inch band 1/2 inch from the nose.

#### DATA CORRECTION AND ACCURACY

The base pressure was measured and the force data were adjusted to represent conditions where the base pressure was equal to the free-stream static pressure. Drag data have been corrected for the buoyancy effect of wind-tunnel longitudinal pressure variations in the region occupied by



the model. The angles of attack and sideslip have been corrected for sting and balance deflections under load and for air-stream angles existing at the moment center locations.

Nacelle internal skin-friction drag has been calculated and subtracted from the measured drag for the configurations with nacelles.

The maximum uncertainty in the tabulated data is estimated to be as follows:

A 6 0 0	M	$\pm 0.01$	$C_D$	$\pm 0.001$	$C_l$	$\pm 0.0001$
	$\alpha$	$\pm 0.1$	$C_{N_c}$	$\pm 0.001$	$C_n$	$\pm 0.0001$
	$\beta$	$\pm 0.1$	$C_m$	$\pm 0.001$	L/D	$\pm 0.05$
	$C_L$	$\pm 0.005$	$C_Y$	$\pm 0.001$	$C_{h_c}$	$\pm 0.001$

## RESULTS

The results are presented in this report without analysis in order to expedite publication. Table II presents an index for the experimental results which are tabulated in tables III through XXI. The data presented were obtained at the wind-tunnel Reynolds numbers per foot indicated in the tables. The test to determine the effect of an all-turbulent boundary-layer flow did not indicate any significant changes in the aerodynamic characteristics, as can be seen from a comparison of the data in tables VIII and XII. The data from tests of selected configurations are plotted in figures 3 through 7 to show a comparison of the longitudinal and lateral characteristics.

The effect of configuration changes on the drag, lift, and pitching-moment coefficients is shown in figure 3. The basic aerodynamic characteristics are summarized as a function of Mach number in figure 4. The effects of the configuration changes on the rolling-moment, side-force and yawing-moment coefficients are shown in figure 5. The lateral-directional stability derivatives are summarized as a function of Mach number in figure 6. The canard normal-force and hinge-moment coefficients are presented in figure 7 for several different Mach numbers.

Ames Research Center  
 National Aeronautics and Space Administration  
 Moffett Field, Calif., Feb. 20, 1962

REFERENCES

1. Peterson, Victor L., and Menees, Gene P.: Static Stability and Control of Canard Configurations at Mach Numbers From 0.70 to 2.22 - Lateral-Directional Characteristics of a Triangular Wing and Canard. NACA RM A57L18, 1958.
2. Peterson, Victor L., and Menees, Gene P.: Aerodynamic Loads at Mach Numbers From 0.70 to 2.22 on an Airplane Model Having a Wing and Canard of Triangular Plan Form and Either Single or Twin Vertical Tails. NASA TN D-690, 1961.
3. Boyd, John W., and Peterson, Victor L.: Static Stability and Control of Canard Configurations at Mach Numbers From 0.70 to 2.22 - Triangular Wing and Canard on an Extended Body. NACA RM A57K14, 1958.
4. Hedstrom, C. Ernest, Blackaby, James R., and Peterson, Victor L.: Static Stability and Control Characteristics of a Triangular Wing and Canard Configuration at Mach Numbers From 2.58 to 3.53. NACA RM A58C05, 1958.
5. Boyd, John W., and Menees, Gene P.: Longitudinal Stability and Control Characteristics at Mach Numbers From 0.70 to 2.22 of a Triangular Wing Configuration Equipped with a Canard Control, a Trailing-Edge-Flap Control, or a Cambered Forebody. NASA MEMO 4-21-59A, 1959.

TABLE I.-- GEOMETRIC CHARACTERISTICS

A 6 0	Wing		
	Leading-edge sweep, deg	59.0	
	Total area, sq in.	349.67	
	Root chord, in.	25.37	
	Mean aerodynamic chord, in.	16.91	
	Span, in.	27.57	
	Aspect ratio	2.17	
	Thickness, percent chord	3.0	
	Airfoil section	hexagon with thickness constant from 30 to 70 percent	
	Deflected tip (dimensions given for one surface only)		
Fuselage	Span, in.	3.45	
	Root chord, in.	6.34	
	Area, sq in.	10.93	
	Hinge-line station	0.75 b/2	
	Deflection angle, deg	60.0	
Canard	Cross section	Circular	
	Forebody shape (sta 0 - sta 22.88), circular-arc ogive	R=146.32 in.	
	Centerbody shape (sta 22.88 to sta 47.93 or 57.60)	Cylindrical	
	Length, long body, in.	57.60	
	Fineness ratio	16.0	
	Length, short body, in.	47.93	
	Fineness ratio	13.30	
	Maximum diameter, in.	3.60	
	Maximum cross-sectional area, sq in.	10.18	
	Vertical tails		
Nacelles	Leading-edge sweep, deg	63.4	
	Exposed area, sq in.	39.16	
	Single	8.85	
	Each twin	8.85	
	Span, in.	5.65	
	Root chord, in.	10.97	
	Tip chord, in.	3.69	
	Thickness, percent chord	3.0	
	Airfoil section	hexagon with constant thickness from 30 to 70 percent	

TABLE II.- KEY TO TABULATED DATA

Configuration	$\delta_c$ , deg	Table no.	Plotted data figure no.	
			Longitudinal	Lateral- directional
$F_1$		III		
$F_1C_1$	0	IV		
$F_1W_1$		V		
$F_1W_1C_1$	0	VI		
$F_1W_1V_1$		VII		
$F_1W_1C_1V_1$	0	VIII		
$F_1W_1C_1V_1$	-4	IX	3	5
$F_1W_1C_1V_1$	4	X		
$F_1W_1C_1V_1$	8	XI	3	5
$F_1W_1C_1V_1$	12	XII		
$F_1W_1C_1V_1 + Trip$	0	XIII		
$F_1W_1C_2V_1$	0	XIV		
$F_1W_2C_1V_1$	0	XV		
$F_1W_1C_1V_1 + N$	0	XVI	3	5
$F_2$		XVII		
$F_2W_1$		XVIII		
$F_2W_1V_2$		XIX		
$F_2W_1C_1V_2$	0	XX	3	5
$F_2W_2C_1V_2$	0	XXI		

TABLE III.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>

(a) M = 0.25 to 0.95										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.003	.0043	-.0061	-00.78	-0.001	.0003	-.0003		
-01.4	00.0	0.000	.0040	-.0030	00.03	0.000	.0002	-.0002		
-00.5	00.0		.0043	-.0022	00.86	-0.001	.0003	-.0003		
00.4	00.0	0.002	.0043	-.0004	00.41	-0.001	.0001	-.0003		
01.4	00.0	0.004	.0045	.0008	00.80	-0.001	.0001	-.0003		
02.4	00.0	0.004	.0043	.0023	00.82	-0.001	.0001	-.0003		
04.3	00.0	0.009	.0047	.0051	01.92	-0.001	.0001	-.0003		
06.3	00.0		.0048	.0081	01.86	-0.001	.0000	-.0003		
08.3	00.0	0.018	.0063	.0102	02.84	-0.001	-.0001	-.0003		
10.4	00.0		.0072	.0136	02.71	0.001	-.0003	-.0006		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.004	.0037	-.0063	-01.20	0.000	.0000	-.0001		
-01.6	00.0	-0.002	.0035	-.0035	-00.63	0.000	.0000	-.0001		
-00.6	00.0	-0.001	.0034	-.0021	-00.16	0.000	.0000	-.0001		
00.3	00.0	0.000	.0036	-.0005	-00.01	0.000	-.0001	-.0002		
01.3	00.0	0.002	.0036	.0008	00.63	0.000	.0000	-.0002		
02.3	00.0	0.003	.0036	.0021	00.79	0.000	.0000	-.0002		
04.3	00.0	0.006	.0040	.0050	01.46	0.000	.0000	-.0002		
06.3	00.0	0.010	.0045	.0076	02.21	0.000	.0000	-.0002		
08.3	00.0	0.015	.0055	.0107	02.66	0.000	-.0001	-.0003		
10.3	00.0	0.021	.0071	.0136	02.94	0.001	-.0001	-.0005		
M = 0.75; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.004	.0038	-.0064	-01.17	0.000	.0000	-.0001		
-01.6	00.0	-0.002	.0036	-.0035	-00.55	0.000	.0000	-.0001		
-00.7	00.0	-0.001	.0037	-.0020	-00.27	0.000	.0000	-.0001		
00.4	00.0	0.000	.0037	-.0005	00.13	0.000	.0000	-.0001		
01.4	00.0	0.002	.0038	.0010	00.40	0.000	.0000	-.0001		
02.4	00.0	0.004	.0042	.0020	00.98	0.000	.0000	-.0001		
04.4	00.0	0.007	.0040	.0050	01.67	0.000	.0000	-.0002		
06.2	00.0	0.010	.0048	.0078	02.14	0.000	.0000	-.0002		
08.3	00.0	0.014	.0057	.0107	02.53	0.000	.0000	-.0002		
10.2	00.0	0.020	.0071	.0138	02.85	0.001	-.0001	-.0004		
M = 0.85; R = 2.4x10 <sup>6</sup> /ft										
-03.7	00.0	-0.005	.0036	-.0062	-01.38	0.000	.0000	-.0001		
-01.7	00.0	-0.002	.0035	-.0035	-00.64	0.000	.0000	-.0001		
-00.7	00.0	-0.001	.0035	-.0020	-00.25	0.000	.0000	-.0001		
00.3	00.0	0.000	.0038	-.0005	00.12	0.000	.0000	-.0001		
01.3	00.0	0.002	.0038	.0008	00.49	0.000	.0000	-.0001		
02.3	00.0	0.003	.0037	.0023	00.88	0.000	.0000	-.0001		
04.3	00.0	0.006	.0038	.0048	01.58	0.000	.0000	-.0002		
06.2	00.0	0.010	.0047	.0076	02.16	0.000	.0000	-.0002		
08.2	00.0	0.015	.0057	.0102	02.68	0.000	.0000	-.0002		
10.2	00.0	0.020	.0067	.0136	03.06	0.001	-.0001	-.0004		
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.005	.0039	-.0057	-01.42	0.000	.0000	-.0001		
-01.9	00.0	-0.003	.0035	-.0031	-00.84	0.000	.0000	-.0001		
-00.8	00.0	-0.002	.0031	-.0017	-00.55	0.000	.0000	-.0001		
00.0	00.0	0.000	.0039	-.0004	00.00	0.000	.0000	-.0001		
01.1	00.0	0.001	.0034	.0010	00.38	0.000	.0000	-.0001		
02.1	00.0		.0034	.0023	01.02	0.000	.0000	-.0001		
04.0	00.0	0.006	.0040	.0047	01.53	0.000	.0000	-.0001		
06.1	00.0	0.010	.0043	.0074	02.32	0.000	.0000	-.0002		
08.0	00.0	0.015	.0051	.0102	03.01	0.000	.0000	-.0002		
10.0	00.0	0.021	.0065	.0131	03.15	0.001	-.0001	-.0003		

TABLE III.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub> - ContinuedA  
E  
C  
C

(b) M = 1.00 to 2.00										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	$L/D$	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
$M = 1.00; R = 2.4 \times 10^6/\text{ft}$										
-04.0	00.0	-0.007	.0044	-.0057	-01.50	0.000	.0000	-.0001		
-01.9	00.0	-0.003	.0044	-.0028	-00.64	0.000	.0000	-.0001		
-01.0	00.0	-0.002	.0044	-.0016	-00.47	0.000	.0000	-.0001		
00.0	00.0	0.000	.0046	-.0003	-00.09	0.000	.0000	-.0001		
01.0	00.0	0.002	.0043	.0009	00.39	0.000	.0000	-.0001		
01.9	00.0	0.003	.0039	.0020	00.88	0.000	.0000	-.0001		
03.9	00.0	0.006	.0047	.01.10	0.000	.0000	-.0001			
06.0	00.0	0.010	.0042	.0076	02.35	0.000	.0000	-.0002		
07.9	00.0	0.015	.0061	.0105	02.42	0.000	.0000	-.0002		
10.1	00.0	0.020	.0073	.0137	02.80	0.001	-.0001	-.0003		
$M = 1.10; R = 2.4 \times 10^6/\text{ft}$										
-03.9	00.0	-0.006	.0053	-.0058	-01.15	0.000	.0000	.0000		
-01.9	00.0	-0.003	.0051	-.0030	-00.52	0.000	.0000	.0000		
-01.0	00.0	-0.002	.0050	-.0019	-00.30	0.000	.0000	.0000		
00.0	00.0	0.000	.0052	-.0004	-00.08	0.000	.0000	.0000		
01.1	00.0	0.001	.0048	.0008	00.24	0.000	.0000	.0000		
02.0	00.0	0.003	.0047	.0020	00.58	0.000	.0000	.0000		
04.1	00.0	0.006	.0046	.0047	01.28	0.000	.0000	-.0001		
06.1	00.0	0.010	.0075	.0075	01.67	0.000	.0000	-.0001		
08.0	00.0	0.014	.0063	.0106	02.26	0.000	.0000	-.0002		
10.0	00.0	0.021	.0078	.0138	02.62	0.001	-.0001	-.0003		
$M = 1.20; R = 2.5 \times 10^6/\text{ft}$										
-03.8	00.0	-0.006	.0049	-.0058	-01.17	0.000	.0000	-.0001		
-01.8	00.0	-0.003	.0044	-.0029	-00.66	0.000	.0000	-.0001		
-00.9	00.0	-0.002	.0046	-.0017	-00.39	0.000	.0000	-.0001		
00.0	00.0	0.000	.0047	-.0005	00.00	0.000	.0000	-.0001		
01.1	00.0	0.002	.0047	.0009	00.39	0.000	.0000	-.0001		
02.2	00.0	0.003	.0048	.0024	00.61	0.000	.0000	-.0001		
04.0	00.0	0.006	.0048	.0050	01.22	0.000	-.0001	-.0002		
06.1	00.0	0.010	.0055	.0080	01.80	0.000	.0000	-.0002		
08.0	00.0	0.015	.0065	.0111	02.27	0.000	.0000	-.0002		
10.2	00.0	0.021	.0082	.0146	02.57	0.001	-.0001	-.0003		
$M = 1.60; R = 2.5 \times 10^6/\text{ft}$										
-03.4	00.0	-0.005	.0044	-.0056	-01.21	0.000	.0000	.0000		
-01.5	00.0	-0.003	.0042	-.0025	-00.62	0.000	.0000	.0000		
-00.5	00.0	-0.001	.0040	-.0012	-00.33	0.000	.0000	-.0001		
00.5	00.0	0.001	.0041	.0003	00.16	0.000	.0000	.0000		
01.6	00.0	0.001	.0042	.0019	00.32	0.000	.0000	-.0001		
02.5	00.0	0.003	.0043	.0035	00.72	0.000	.0000	.0000		
04.5	00.0	0.007	.0045	.0063	01.46	0.000	.0000	.0000		
06.5	00.0	0.011	.0053	.0092	02.07	0.000	.0000	.0000		
08.5	00.0	0.016	.0063	.0124	02.54	0.000	.0000	-.0001		
10.6	00.0	0.023	.0082	.0161	02.87	0.001	-.0001	-.0002		
$M = 2.00; R = 2.4 \times 10^6/\text{ft}$										
-03.9	00.0	-0.007	.0038	-.0072	-01.88	0.000	.0000	.0000		
-02.0	00.0	-0.003	.0035	-.0044	-00.90	0.000	.0000	.0000		
-01.0	00.0	-0.002	.0036	-.0029	-00.48	0.000	.0000	.0000		
00.0	00.0	0.000	.0038	-.0010	-00.10	0.000	.0000	.0000		
01.0	00.0	0.001	.0038	.0004	00.28	0.000	.0000	.0000		
02.0	00.0	0.003	.0038	.0020	00.75	0.000	.0000	.0000		
04.0	00.0	0.006	.0041	.0051	01.50	0.000	.0000	.0000		
05.9	00.0	0.011	.0049	.0083	02.15	0.000	.0000	.0001		
08.0	00.0	0.016	.0060	.0119	02.73	0.000	.0000	.0000		
10.0	00.0	0.024	.0079	.0163	03.06	0.000	.0000	.0000		

TABLE III.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub> - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 2.51; R = 2.5x10 <sup>6</sup> /ft										
-04.2	00.0	-0.006	.0046	-.0068	-01.25	0.001	.0000	.0001		
-02.2	00.0	-0.002	.0042	-.0037	-00.60	0.000	.0000	.0000		
-00.2	00.0	0.000	.0037	-.0004	00.10	0.000	.0000	.0000		
01.8	00.0	0.003	.0040	.0030	00.85	0.000	.0000	.0000		
03.8	00.0	0.006	.0044	.0063	01.44	0.000	.0000	.0001		
05.8	00.0	0.012	.0051	.0093	02.27	0.001	.0000	.0001		
07.8	00.0	0.018	.0063	.0129	02.88	0.001	.0000	.0000		
09.8	00.0	0.027	.0082	.0175	03.25	0.001	.0000	-.0001		
-00.2	-02.0	0.000	.0040	-.0002	00.10	0.003	.0000	.0020		
-00.2	00.0	0.000	.0038	-.0002	00.10	0.000	.0000	.0000		
-00.2	01.9	0.000	.0040	-.0002	00.10	-0.002	.0000	-.0020		
-00.2	04.0	0.000	.0041	-.0002	00.09	-0.005	.0000	-.0040		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.2	00.0	-0.006	.0044	-.0069	-01.47	0.001	.0000	.0000		
-02.2	00.0	-0.002	.0037	-.0035	-00.64	0.000	.0000	.0000		
-00.2	00.0	0.000	.0033	-.0001	00.13	0.001	.0000	.0000		
01.7	00.0	0.003	.0036	.0034	00.93	0.001	.0000	.0000		
03.8	00.0	0.007	.0041	.0068	01.74	0.001	.0000	.0000		
05.7	00.0	0.012	.0048	.0100	02.51	0.001	.0000	.0000		
07.8	00.0	0.019	.0059	.0142	03.25	0.001	.0000	.0000		
09.8	00.0	0.031	.0085	.0182	03.62	0.001	.0000	-.0001		
-00.2	-02.0	0.000	.0037	.0001	00.12	0.003	.0000	.0024		
-00.2	00.0	0.000	.0034	.0001	00.13	0.001	.0000	.0000		
-00.2	02.0	0.000	.0038	.0001	00.12	-0.002	.0000	-.0024		
-00.2	04.0	0.000	.0040	.0000	00.00	-0.006	.0000	-.0046		
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.2	00.0	-0.007	.0040	-.0071	-01.67	0.001	.0000	.0001		
-02.2	00.0	-0.003	.0035	-.0035	-00.81	0.000	.0000	.0001		
-00.2	00.0	0.001	.0031	-.0001	00.16	0.001	.0000	.0001		
01.7	00.0	0.003	.0035	.0034	00.99	0.001	.0000	.0001		
03.7	00.0	0.007	.0039	.0068	01.84	0.000	.0000	.0001		
05.7	00.0	0.013	.0046	.0103	02.83	0.001	.0000	.0001		
07.8	00.0	0.021	.0060	.0141	03.55	0.001	.0000	.0001		
09.8	00.0	0.034	.0090	.0172	03.79	0.001	.0000	.0000		
-00.2	-02.0	0.001	.0034	.0000	00.29	0.004	.0000	.0025		
-00.2	00.0	0.001	.0031	.0000	00.32	0.000	.0000	.0001		
-00.2	02.0	0.000	.0034	.0001	00.15	-0.003	.0000	-.0024		
-00.2	04.0	0.001	.0035	.0000	00.28	-0.007	.0000	-.0048		

TABLE IV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>C<sub>1</sub>

(a) M = 0.25 to 0.95										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{N_c}$	$C_{h_c}$
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.015	.0048	-.0227	-03.15	-0.002	-.0001	-.0002		
-01.5	00.0	-0.009	.0037	-.0096	-02.35	-0.002	-.0001	-.0002		
-00.5	00.0	-0.005	.0037	-.0035	-01.43	-0.003	-.0002	-.0003		
00.4	00.0	0.000	.0037	.0023	00.02	-0.003	-.0002	-.0003		
01.4	00.0	0.006	.0043	.0081	01.34	-0.002	-.0002	-.0002		
02.4	00.0	0.012	.0043	.0146	02.71	-0.002	-.0002	-.0002		
04.4	00.0	0.024	.0058	.0298	04.07	-0.002	-.0002	-.0002		
06.4	00.0	0.037	.0084	.0444	04.45	-0.001	-.0002	-.0002		
08.5	00.0	0.050	.0115	.0612	04.38	0.000	-.0002	0.0000		
10.4	00.0	0.067	.0162	.0771	04.12	0.000	-.0002	0.0000		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.017	.0047	-.0250	-03.70	0.001	.0000	-.0002		
-01.6	00.0	-0.007	.0039	-.0105	-01.74	0.001	.0000	-.0002		
-00.6	00.0	-0.002	.0037	-.0042	-00.62	0.001	.0000	-.0002		
00.3	00.0	0.002	.0038	.0019	00.48	0.001	.0000	-.0002		
01.3	00.0	0.007	.0042	.0085	01.73	0.001	-.0001	-.0002		
02.3	00.0	0.012	.0043	.0153	02.69	0.001	-.0001	-.0002		
04.3	00.0	0.025	.0058	.0305	04.23	0.001	-.0001	-.0001		
06.3	00.0	0.038	.0082	.0465	04.64	0.002	-.0001	-.0002		
08.3	00.0	0.051	.0115	.0634	04.47	0.003	-.0001	-.0001		
10.3	00.0	0.066	.0158	.0806	04.17	0.003	-.0001	-.0001		
M = 0.75; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.017	.0048	-.0250	-03.53	0.001	.0000	-.0002		
-01.6	00.0	-0.007	.0039	-.0105	-01.73	0.001	.0000	-.0002		
-00.7	00.0	-0.003	.0038	-.0043	-00.81	0.001	.0000	-.0002		
00.3	00.0	0.002	.0040	.0020	00.55	0.001	.0000	-.0002		
01.3	00.0	0.008	.0042	.0083	01.84	0.001	-.0001	-.0002		
02.3	00.0	0.012	.0045	.0155	02.71	0.001	-.0001	-.0001		
04.4	00.0	0.026	.0059	.0309	04.31	0.002	-.0001	-.0002		
06.3	00.0	0.038	.0081	.0470	04.61	0.002	-.0001	-.0002		
08.3	00.0	0.053	.0119	.0643	04.47	0.002	-.0001	-.0001		
10.2	00.0	0.066	.0161	.0812	04.13	0.003	-.0001	-.0001		
M = 0.85; R = 2.5x10 <sup>6</sup> /ft										
-03.7	00.0	-0.018	.0044	-.0252	-04.03	0.001	.0000	-.0002		
-01.7	00.0	-0.007	.0040	-.0110	-01.82	0.000	.0000	-.0002		
-00.7	00.0	-0.003	.0036	-.0049	-00.89	0.000	.0000	-.0002		
00.2	00.0	0.002	.0040	.0018	00.48	0.001	.0000	-.0002		
01.3	00.0	0.006	.0040	.0085	01.58	0.001	-.0001	-.0001		
02.3	00.0	0.012	.0045	.0153	02.73	0.001	-.0001	-.0002		
04.2	00.0	0.024	.0059	.0305	04.10	0.001	-.0001	-.0001		
06.2	00.0	0.037	.0080	.0473	04.58	0.002	-.0001	-.0002		
08.3	00.0	0.052	.0115	.0655	04.54	0.002	-.0001	-.0001		
10.3	00.0	0.068	.0163	.0833	04.19	0.002	-.0001	0.0000		
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.019	.0044	-.0274	-04.44	0.000	.0000	-.0001		
-02.0	00.0	-0.009	.0043	-.0124	-02.11	0.000	.0000	-.0001		
-01.0	00.0	-0.004	.0038	-.0060	-01.14	0.001	.0000	-.0001		
00.1	00.0	0.001	.0039	.0019	00.25	0.000	.0000	-.0001		
01.2	00.0	0.007	.0043	.0093	01.62	0.001	.0000	-.0001		
02.1	00.0	0.012	.0046	.0161	02.71	0.001	.0000	-.0001		
04.0	00.0	0.026	.0058	.0326	04.45	0.001	.0000	-.0001		
06.0	00.0	0.040	.0085	.0505	04.68	0.002	.0000	-.0001		
08.0	00.0	0.055	.0119	.0683	04.61	0.002	-.0001	-.0001		
10.0	00.0	0.070	.0169	.0861	04.13	0.003	-.0001	0.0000		

TABLE IV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>C<sub>1</sub> - Continued

(b) M = 1.00 to 2.00										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 1.00; R = 2.4x10 <sup>6</sup> /ft										
-04.0	00.0	-0.020	.0044	-.0273	-04.58	0.001	.0000	-.0001		
-02.0	00.0	-0.010	.0041	-.0123	-02.35	0.001	.0000	-.0001		
-01.0	00.0	-0.005	.0044	-.0054	-01.05	0.000	.0000	-.0001		
00.0	00.0	0.000	.0043	.0011	-00.09	0.000	.0000	-.0001		
00.9	00.0	0.006	.0048	.0077	01.22	0.001	.0000	-.0001		
02.0	00.0	0.012	.0054	.0153	02.24	0.001	.0000	-.0001		
04.0	00.0	0.024	.0069	.0308	03.47	0.001	.0000	-.0001		
05.9	00.0	0.038	.0087	.0474	04.33	0.002	-.0001	-.0001		
07.9	00.0	0.053	.0122	.0653	04.31	0.002	-.0001	-.0001		
10.0	00.0	0.068	.0168	.0827	04.03	0.003	-.0001	0.000		
M = 1.10; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.019	.0067	-.0257	-02.79	0.000	.0000	-.0001		
-01.9	00.0	-0.009	.0056	-.0108	-01.54	0.000	.0000	-.0001		
-00.8	00.0	-0.003	.0052	-.0038	-00.60	0.000	.0000	-.0001		
00.0	00.0	0.001	.0055	.0026	00.24	0.000	.0000	0.000		
01.1	00.0	0.006	.0056	.0089	01.13	0.001	.0000	-.0001		
02.0	00.0	0.011	.0057	.0154	01.98	0.001	.0000	-.0001		
04.0	00.0	0.024	.0073	.0304	03.28	0.002	.0000	-.0001		
06.0	00.0	0.037	.0090	.0464	04.12	0.002	.0000	-.0001		
07.9	00.0	0.050	.0123	.0632	04.06	0.002	-.0001	0.000		
10.0	00.0	0.063	.0167	.0795	03.79	0.002	-.0001	0.000		
M = 1.20; R = 2.5x10 <sup>6</sup> /ft										
-03.8	00.0	-0.017	.0063	-.0242	-02.79	0.000	-.0001	-.0001		
-01.8	00.0	-0.008	.0053	-.0108	-01.45	0.000	-.0001	-.0001		
-00.9	00.0	-0.004	.0052	-.0045	-00.70	0.000	-.0001	-.0001		
00.1	00.0	0.001	.0052	.0015	00.23	0.000	-.0001	-.0001		
01.1	00.0	0.007	.0055	.0082	01.21	0.000	-.0001	-.0001		
02.1	00.0	0.011	.0057	.0146	01.98	0.001	-.0001	-.0001		
04.1	00.0	0.023	.0069	.0292	03.26	0.001	-.0001	-.0001		
06.0	00.0	0.034	.0090	.0435	03.84	0.001	-.0001	0.000		
08.0	00.0	0.048	.0124	.0592	03.86	0.002	-.0001	0.001		
10.0	00.0	0.062	.0167	.0741	03.70	0.002	-.0001	0.001		
M = 1.60; R = 2.3x10 <sup>6</sup> /ft										
-03.4	00.0	-0.013	.0053	-.0189	-02.53	0.001	-.0001	-.0001		
-01.4	00.0	-0.006	.0047	-.0069	-01.23	0.000	-.0001	-.0001		
-00.4	00.0	-0.002	.0044	-.0018	-00.40	0.000	-.0001	-.0001		
00.5	00.0	0.003	.0046	.0035	00.58	0.001	-.0001	-.0001		
01.5	00.0	0.006	.0049	.0092	01.19	0.000	-.0001	-.0001		
02.5	00.0	0.011	.0053	.0153	02.13	0.001	-.0001	0.000		
04.5	00.0	0.021	.0065	.0274	03.17	0.001	-.0001	0.000		
06.5	00.0	0.031	.0085	.0398	03.60	0.001	-.0001	0.000		
08.5	00.0	0.042	.0113	.0518	03.74	0.002	-.0001	0.000		
10.6	00.0	0.054	.0153	.0641	03.55	0.002	-.0001	-.0001		
M = 2.00; R = 2.2x10 <sup>6</sup> /ft										
-04.1	00.0	-0.015	.0055	-.0211	-02.81	0.001	.0001	0.000		
-02.2	00.0	-0.007	.0046	-.0105	-01.56	0.000	-.0001	0.000		
-01.1	00.0	-0.003	.0044	-.0050	-00.69	0.000	-.0001	0.000		
00.0	00.0	0.000	.0040	-.0002	00.09	0.000	-.0001	0.000		
01.1	00.0	0.005	.0041	.0057	01.28	0.001	.0000	0.001		
02.0	00.0	0.009	.0045	.0111	01.95	0.001	-.0001	0.001		
04.0	00.0	0.018	.0055	.0219	03.18	0.001	-.0001	0.001		
05.9	00.0	0.027	.0072	.0326	03.72	0.001	-.0001	0.001		
08.0	00.0	0.037	.0099	.0442	03.76	0.002	-.0001	0.001		
09.9	00.0	0.048	.0132	.0539	03.62	0.002	-.0001	0.001		

TABLE IV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>C<sub>1</sub> - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
M = 2.51; R = 2.4×10 <sup>6</sup> /ft										
-04.3	00.0	-0.013	.0055	-.0179	-02.28	0.000	.0000	.0001		
-02.2	00.0	-0.006	.0046	-.0079	-01.21	0.001	.0000	.0001		
-00.1	00.0	0.002	.0042	.0019	00.38	0.001	.0000	.0001		
01.8	00.0	0.009	.0047	.0120	02.01	0.001	.0000	.0001		
03.8	00.0	0.018	.0059	.0222	03.05	0.001	.0000	.0001		
05.9	00.0	0.027	.0076	.0325	03.56	0.001	.0000	.0000		
07.9	00.0	0.037	.0100	.0425	03.72	0.001	.0000	.0000		
10.0	00.0	0.050	.0138	.0525	03.62	0.002	.0000	.0000		
-00.2	-02.0	0.002	.0044	.0025	00.46	0.003	.0000	.0022		
-00.2	00.0	0.002	.0043	.0022	00.47	0.001	.0000	.0000		
-00.2	02.0	0.002	.0044	.0022	00.55	-0.002	.0000	-0.0022		
-00.2	04.0	0.001	.0045	.0023	00.28	-0.005	-0.0001	-0.0044		
M = 3.00; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.012	.0051	-.0160	-02.41	0.001	.0000	.0000		
-02.2	00.0	-0.005	.0042	-.0070	-01.16	0.001	.0000	.0000		
-00.2	00.0	0.002	.0038	.0021	00.47	0.001	.0000	.0000		
01.8	00.0	0.009	.0042	.0115	02.17	0.001	.0000	.0000		
03.8	00.0	0.017	.0053	.0210	03.16	0.001	.0000	.0000		
05.8	00.0	0.026	.0070	.0304	03.72	0.002	.0000	-0.0001		
07.9	00.0	0.037	.0095	.0394	03.84	0.002	.0000	-0.0001		
09.9	00.0	0.051	.0134	.0484	03.82	0.003	-0.0001	-0.0002		
-00.2	-02.0	0.002	.0039	.0025	00.46	0.003	.0000	.0026		
-00.2	00.0	0.002	.0039	.0025	00.46	0.001	.0000	-0.0001		
-00.2	02.0	0.002	.0040	.0025	00.45	-0.002	.0000	-0.0026		
-00.2	04.0	0.001	.0041	.0024	00.24	-0.006	-0.0001	-0.0051		
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.012	.0047	-.0148	-02.50	0.001	.0000	.0001		
-02.2	00.0	-0.004	.0038	-.0063	-01.14	0.001	.0000	.0001		
-00.2	00.0	0.002	.0035	.0020	00.45	0.001	.0000	.0001		
01.8	00.0	0.009	.0038	.0108	02.25	0.001	.0000	.0001		
05.8	00.0	0.025	.0065	.0279	03.92	0.001	.0000	.0000		
07.8	00.0	0.037	.0091	.0361	04.04	0.002	.0000	-0.0001		
09.9	00.0	0.053	.0133	.0431	03.98	0.002	-0.0001	-0.0001		
-00.2	-02.0	0.002	.0035	.0024	00.58	0.004	.0000	.0027		
-00.2	00.0	0.003	.0035	.0023	00.72	0.001	.0000	.0000		
-00.2	02.0	0.002	.0034	.0024	00.59	-0.002	.0000	-0.0026		
-00.2	04.0	0.002	.0036	.0023	00.43	-0.007	-0.0001	-0.0051		

TABLE V.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F1W1

(a) $M = 0.25 \text{ to } 0.95$										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	$L/D$	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
$M = 0.25; R = 2.0 \times 10^6/\text{ft}$										
-03.5	00.0	-0.173	.0166	.0133	-10.42	-0.004	-0.0004	-0.0003		
-01.4	00.0	-0.069	.0094	.0048	-07.39	-0.005	-0.0005	-0.0004		
-00.5	00.0	-0.030	.0081	.0003	-03.66	-0.005	-0.0003	-0.0004		
00.4	00.0	0.017	.0078	-0.0033	02.15	-0.003	-0.0003	-0.0003		
01.3	00.0	0.056	.0096	-0.0085	05.85	-0.004	-0.0006	-0.0004		
02.5	00.0	0.113	.0128	-0.0131	08.80	-0.003	-0.0004	-0.0005		
04.5	00.0	0.210	.0231	-0.0216	09.10	-0.001	-0.0001	-0.0005		
06.4	00.0	0.320	.0416	-0.0307	07.70	-0.001	-0.0001	-0.0005		
08.4	00.0	0.422	.0668	-0.0388	06.31	-0.001	-0.0003	-0.0007		
10.5	00.0	0.532	.1012	-0.0432	05.25	0.001	-0.0003	-0.0005		
$M = 0.65; R = 2.4 \times 10^6/\text{ft}$										
-03.6	00.0	-0.189	.0174	.0175	-10.84	-0.001	-0.0001	-0.0001		
-01.5	00.0	-0.077	.0091	.0065	-08.40	-0.001	-0.0002	-0.0001		
-00.6	00.0	-0.031	.0081	.0015	-03.77	0.000	-0.0002	-0.0001		
00.3	00.0	0.018	.0077	-0.0038	02.39	0.000	-0.0003	-0.0002		
01.4	00.0	0.069	.0096	-0.0093	07.16	0.000	-0.0003	-0.0002		
02.3	00.0	0.119	.0122	-0.0149	09.82	0.001	-0.0003	-0.0002		
04.4	00.0	0.229	.0233	-0.0254	09.82	0.001	-0.0006	-0.0003		
06.3	00.0	0.344	.0428	-0.0366	08.05	0.002	-0.0007	-0.0003		
08.3	00.0	0.465	.0715	-0.0482	06.51	0.003	-0.0008	-0.0004		
10.3	00.0	0.584	.1080	-0.0579	05.41	0.004	-0.0010	-0.0004		
$M = 0.75; R = 2.4 \times 10^6/\text{ft}$										
-03.6	00.0	-0.203	.0187	.0213	-10.82	-0.001	-0.0001	-0.0001		
-01.7	00.0	-0.088	.0097	.0090	-09.08	-0.001	-0.0002	-0.0001		
-00.7	00.0	-0.035	.0083	.0025	-04.19	-0.001	-0.0002	-0.0001		
00.3	00.0	0.015	.0078	-0.0032	01.96	0.000	-0.0003	-0.0002		
01.3	00.0	0.065	.0094	-0.0092	06.86	0.000	-0.0004	-0.0002		
02.3	00.0	0.117	.0122	-0.0153	09.60	0.001	-0.0005	-0.0003		
04.2	00.0	0.235	.0235	-0.0279	09.97	0.002	-0.0006	-0.0003		
06.2	00.0	0.356	.0438	-0.0411	08.13	0.002	-0.0007	-0.0003		
08.3	00.0	0.482	.0741	-0.0554	06.50	0.003	-0.0007	-0.0004		
10.3	00.0	0.608	.1132	-0.0695	05.37	0.004	-0.0009	-0.0004		
$M = 0.85; R = 2.5 \times 10^6/\text{ft}$										
-03.7	00.0	-0.218	.0191	.0272	-11.37	-0.001	-0.0001	-0.0001		
-01.7	00.0	-0.103	.0102	.0127	-10.15	0.000	-0.0003	-0.0001		
-00.7	00.0	-0.044	.0084	.0046	-05.23	0.000	-0.0002	-0.0001		
00.4	00.0	0.011	.0075	-0.0023	01.45	0.000	-0.0002	-0.0002		
01.4	00.0	0.066	.0095	-0.0097	07.01	0.000	-0.0003	-0.0002		
02.3	00.0	0.121	.0124	-0.0173	09.75	0.001	-0.0004	-0.0002		
04.1	00.0	0.228	.0229	-0.0308	09.97	0.001	-0.0006	-0.0003		
06.2	00.0	0.359	.0438	-0.0479	08.19	0.002	-0.0007	-0.0003		
08.3	00.0	0.493	.0754	-0.0682	06.53	0.003	-0.0008	-0.0004		
10.2	00.0	0.628	.1162	-0.0904	05.41	0.004	-0.0009	-0.0004		
$M = 0.95; R = 2.4 \times 10^6/\text{ft}$										
-03.9	00.0	-0.258	.0264	.0505	-09.79	-0.001	-0.0001	0.0000		
-02.0	00.0	-0.124	.0134	.0229	-09.24	0.000	-0.0003	-0.0001		
-00.9	00.0	-0.045	.0116	.0069	-03.88	0.000	-0.0003	-0.0001		
00.1	00.0	0.006	.0101	-0.0010	00.62	0.000	-0.0003	-0.0001		
01.1	00.0	0.058	.0129	-0.0097	04.48	0.000	-0.0004	-0.0002		
02.0	00.0	0.126	.0157	-0.0230	08.02	0.001	-0.0004	-0.0002		
04.1	00.0	0.250	.0279	-0.0486	08.98	0.002	-0.0005	-0.0003		
06.0	00.0	0.386	.0495	-0.0788	07.81	0.003	-0.0006	-0.0004		
08.0	00.0	0.518	.0815	-0.1068	06.35	0.003	-0.0007	-0.0005		
09.0	00.0	0.581	.1001	-0.1201	05.81	0.003	-0.0007	-0.0005		

TABLE V.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub> - Continued

(b) M = 1.00 to 1.97										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
M = 1.00; R = $2.4 \times 10^6$ /ft										
-04.0	00.0	-0.256	.0288	.0531	-08.89	-0.001	-0.0001	.0000		
-02.0	00.0	-0.127	.0170	.0264	-07.50	0.000	-0.0002	.0000		
-01.0	00.0	-0.063	.0151	.0135	-04.17	0.000	-0.0002	-0.0001		
00.1	00.0	0.001	.0136	.0002	00.06	0.000	-0.0003	-0.0001		
01.0	00.0	0.052	.0150	-.0099	03.46	0.000	-0.0004	-0.0002		
01.9	00.0	0.108	.0174	-.0216	06.23	0.001	-0.0004	-0.0002		
03.9	00.0	0.234	.0293	-.0468	07.98	0.002	-0.0005	-0.0003		
05.9	00.0	0.361	.0480	-.0722	07.53	0.002	-0.0006	-0.0004		
07.9	00.0	0.487	.0781	-.1000	06.23	0.003	-0.0005	-0.0005		
09.0	00.0	0.554	.0968	-.1156	05.72	0.003	-0.0006	-0.0005		
M = 1.10; R = $2.5 \times 10^6$ /ft										
-03.9	00.0	-0.245	.0281	.0528	-08.73	-0.001	.0001	.0000		
-01.9	00.0	-0.123	.0172	.0265	-07.19	0.000	-0.0001	.0000		
-01.0	00.0	-0.068	.0147	.0144	-04.63	0.000	-0.0001	-0.0001		
00.0	00.0	-0.009	.0134	-.0009	-00.68	0.000	-0.0001	-0.0001		
01.0	00.0	0.048	.0145	-.0123	03.31	0.000	-0.0001	-0.0002		
04.0	00.0	0.229	.0276	-.0553	08.32	0.002	-0.0008	-0.0003		
05.9	00.0	0.371	.0487	-.0813	07.63	0.002	-0.0004	-0.0004		
07.9	00.0	0.483	.0769	-.1009	06.29	0.003	-0.0004	-0.0005		
09.0	00.0	0.538	.0937	-.1103	05.74	0.003	-0.0004	-0.0005		
M = 1.20; R = $2.5 \times 10^6$ /ft										
-03.8	00.0	-0.222	.0243	.0497	-09.15	-0.001	.0000	.0000		
-01.9	00.0	-0.106	.0143	.0239	-07.40	0.000	-0.0001	-0.0001		
-00.9	00.0	-0.049	.0122	.0109	-03.98	0.000	-0.0003	-0.0001		
00.1	00.0	0.004	.0113	-.0016	00.37	0.000	-0.0003	-0.0001		
01.1	00.0	0.060	.0129	-.0146	04.60	0.000	-0.0004	-0.0002		
02.2	00.0	0.113	.0155	-.0265	07.31	0.001	-0.0005	-0.0002		
04.1	00.0	0.221	.0258	-.0508	08.57	0.002	-0.0006	-0.0003		
06.1	00.0	0.336	.0449	-.0756	07.49	0.002	-0.0007	-0.0004		
07.9	00.0	0.446	.0704	-.0999	06.34	0.003	-0.0007	-0.0005		
M = 1.60; R = $2.4 \times 10^6$ /ft										
-03.4	00.0	-0.155	.0183	.0356	-08.51	0.000	-0.0001	.0001		
-01.5	00.0	-0.062	.0117	.0144	-05.29	0.000	-0.0002	.0000		
-00.5	00.0	-0.013	.0101	.0032	-01.25	0.000	-0.0003	.0000		
00.4	00.0	0.039	.0109	-.0085	03.55	0.000	-0.0003	-0.0001		
01.4	00.0	0.087	.0127	-.0195	06.84	0.001	-0.0002	-0.0001		
02.4	00.0	0.105	.0146	-.0235	07.15	0.001	-0.0003	-0.0001		
04.4	00.0	0.184	.0235	-.0415	07.82	0.001	-0.0003	-0.0002		
06.4	00.0	0.268	.0388	-.0608	06.92	0.002	-0.0003	-0.0002		
08.4	00.0	0.347	.0594	-.0781	05.84	0.002	-0.0003	-0.0003		
10.5	00.0	0.423	.0859	-.0945	04.93	0.003	-0.0004	-0.0003		
M = 1.97; R = $2.4 \times 10^6$ /ft										
-03.8	00.0	-0.144	.0178	.0312	-08.08	-0.001	-0.0002	.0000		
-01.9	00.0	-0.077	.0112	.0167	-06.87	0.000	-0.0003	-0.0001		
-00.8	00.0	-0.039	.0094	.0086	-04.19	0.000	-0.0004	.0000		
00.0	00.0	0.005	.0089	-.0012	00.60	0.000	-0.0004	-0.0001		
01.0	00.0	0.039	.0099	-.0084	03.91	0.000	-0.0003	-0.0001		
02.1	00.0	0.078	.0121	-.0169	06.44	0.000	-0.0004	-0.0001		
04.0	00.0	0.122	.0174	-.0265	07.01	0.001	-0.0004	-0.0001		
06.0	00.0	0.214	.0311	-.0460	06.87	0.001	-0.0003	-0.0002		
08.1	00.0	0.282	.0484	-.0601	05.83	0.002	-0.0003	-0.0003		
10.1	00.0	0.320	.0648	-.0680	04.94	0.002	-0.0003	-0.0003		

TABLE V.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub> - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg										
$M = 2.51; R = 2.4 \times 10^6/\text{ft}$										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
-04.3	00.0	-0.126	.0183	.0262	-06.88	0.001	.0000	.0003		
-02.3	00.0	-0.067	.0115	.0140	-05.81	0.002	.0000	.0003		
-00.2	00.0	-0.004	.0088	.0009	-00.51	0.002	.0000	.0002		
01.8	00.0	0.059	.0108	-.0124	05.49	0.002	.0000	.0001		
03.9	00.0	0.120	.0172	-.0248	06.99	0.003	.0000	.0000		
05.9	00.0	0.179	.0278	-.0368	06.44	0.003	.0000	-.0002		
08.0	00.0	0.237	.0426	-.0484	05.57	0.004	.0000	-.0002		
10.1	00.0	0.294	.0615	-.0587	04.79	0.004	-.0001	-.0003		
-00.2	-02.0	0.000	.0090	.0001	-00.04	0.004	-.0001	.0018		
-00.2	00.0	-0.001	.0088	.0002	-00.12	0.001	.0000	.0002		
-00.2	02.0	-0.002	.0090	.0005	-00.20	-0.001	.0000	-.0016		
-00.2	04.0	-0.002	.0092	.0005	-00.20	-0.005	.0001	-.0033		
$M = 3.00; R = 2.5 \times 10^6/\text{ft}$										
-04.3	00.0	-0.107	.0165	.0213	-06.49	0.001	-.0001	.0002		
-02.3	00.0	-0.055	.0010	.0113	-57.26	0.002	.0000	.0002		
-00.2	00.0	-0.002	.0077	.0008	-00.31	0.002	-.0001	.0001		
01.7	00.0	0.050	.0096	-.0095	05.17	0.002	.0000	.0001		
03.8	00.0	0.103	.0153	-.0197	06.74	0.003	.0000	.0001		
05.9	00.0	0.154	.0245	-.0294	06.28	0.003	.0000	-.0001		
07.9	00.0	0.204	.0373	-.0385	05.47	0.004	.0000	-.0002		
10.0	00.0	0.254	.0538	-.0463	04.73	0.004	-.0001	-.0003		
-00.2	-02.0	0.000	.0081	.0003	-00.05	0.004	-.0001	.0023		
-00.2	00.0	0.000	.0077	.0004	-00.05	0.002	-.0001	.0001		
-00.2	02.0	-0.001	.0081	.0006	-00.15	-0.001	.0000	-.0021		
-00.2	04.0	-0.002	.0084	.0007	-00.19	-0.005	.0000	-.0041		
$M = 3.50; R = 2.5 \times 10^6/\text{ft}$										
-04.3	00.0	-0.089	.0142	.0159	-06.25	0.002	.0000	.0003		
-02.2	00.0	-0.045	.0091	.0083	-05.01	0.002	.0000	.0003		
-00.2	00.0	0.000	.0070	.0001	-00.06	0.002	.0000	.0002		
01.7	00.0	0.044	.0086	-.0080	05.14	0.002	.0000	.0002		
03.8	00.0	0.089	.0134	-.0157	06.65	0.003	.0000	.0001		
05.8	00.0	0.135	.0218	-.0237	06.18	0.003	.0000	.0001		
07.9	00.0	0.180	.0334	-.0311	05.40	0.003	-.0001	.0001		
09.9	00.0	0.225	.0481	-.0375	04.68	0.004	-.0002	.0000		
-00.2	-02.0	0.002	.0071	-.0002	00.27	0.005	.0000	.0025		
-00.2	00.0	0.001	.0068	-.0001	00.21	0.002	.0000	.0002		
-00.2	02.0	0.001	.0073	-.0001	00.20	-0.001	.0000	-.0020		
-00.2	04.0	0.001	.0075	.0001	00.07	-0.006	.0000	-.0042		

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TABLE VI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>; δ<sub>c</sub> = 0°

(a) M = 0.25 to 0.95										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.174	.0183	.0009	-09.54	-0.003	-0.0001	-0.0003		
-01.4	00.0	-0.067	.0101	.0005	-06.66	-0.003	-0.0003	-0.0003		
-00.5	00.0	-0.026	.0092	-0.0004	-02.81	-0.002	-0.0003	-0.0004		
00.4	00.0	0.015	.0088	-0.0005	01.70	-0.002	-0.0002	-0.0004		
01.3	00.0	0.058	.0104	-0.0002	05.50	-0.001	-0.0003	-0.0005		
02.4	00.0	0.109	.0131	-0.0002	08.33	-0.001	-0.0005	-0.0005		
04.5	00.0	0.215	.0243	.0015	08.86	0.000	-0.0006	-0.0005		
06.5	00.0	0.326	.0434	.0040	07.52	0.001	-0.0008	-0.0005		
08.4	00.0	0.442	.0704	.0074	06.27	0.002	-0.0011	-0.0005		
10.4	00.0	0.564	.1076	.0148	05.25	0.003	-0.0013	-0.0002		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.195	.0193	.0036	-10.10	-0.001	-0.0003	-0.0001		
-01.6	00.0	-0.084	.0105	.0025	-07.96	-0.001	-0.0003	-0.0001		
-00.6	00.0	-0.032	.0091	.0005	-03.49	0.000	-0.0004	-0.0001		
00.3	00.0	0.016	.0085	-0.0006	01.89	0.000	-0.0005	-0.0002		
01.3	00.0	0.065	.0101	-0.0014	06.43	0.001	-0.0006	-0.0002		
02.3	00.0	0.118	.0130	-0.0020	09.07	0.001	-0.0007	-0.0002		
04.3	00.0	0.230	.0246	-0.0016	09.35	0.002	-0.0008	-0.0002		
06.4	00.0	0.358	.0462	-0.0010	07.74	0.003	-0.0010	-0.0002		
08.3	00.0	0.479	.0752	.0000	06.37	0.004	-0.0011	-0.0002		
10.3	00.0	0.611	.1152	.0024	05.30	0.005	-0.0013	0.0000		
M = 0.75; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.205	.0197	.0068	-10.41	-0.001	-0.0002	-0.0001		
-01.6	00.0	-0.083	.0105	.0040	-07.86	-0.001	-0.0003	-0.0001		
-00.6	00.0	-0.024	.0091	.0009	-02.59	0.000	-0.0004	-0.0001		
00.3	00.0	0.025	.0090	-0.0001	02.80	0.000	-0.0005	-0.0001		
01.3	00.0	0.081	.0108	-0.0020	07.47	0.001	-0.0005	-0.0002		
02.3	00.0	0.136	.0139	-0.0032	09.77	0.001	-0.0006	-0.0002		
04.3	00.0	0.258	.0269	-0.0037	09.57	0.002	-0.0009	-0.0002		
06.3	00.0	0.380	.0485	-0.0048	07.83	0.003	-0.0009	-0.0002		
08.3	00.0	0.504	.0788	-0.0060	06.39	0.004	-0.0011	-0.0002		
10.4	00.0	0.629	.1192	-0.0071	05.27	0.005	-0.0011	-0.0001		
M = 0.85; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.231	.0216	.0132	-10.69	-0.001	-0.0002	-0.0001		
-01.7	00.0	-0.098	.0111	.0076	-08.85	0.000	-0.0003	-0.0001		
-00.6	00.0	-0.031	.0093	.0027	-03.37	0.000	-0.0004	-0.0001		
00.3	00.0	0.031	.0093	.0003	03.28	0.000	-0.0005	-0.0001		
01.3	00.0	0.120	.0116	-0.0041	10.34	0.001	-0.0006	-0.0002		
02.2	00.0	0.154	.0147	-0.0052	10.47	0.001	-0.0007	-0.0002		
04.3	00.0	0.265	.0279	-0.0085	09.51	0.002	-0.0008	-0.0002		
06.2	00.0	0.436	.0539	-0.0150	08.10	0.004	-0.0010	-0.0002		
08.2	00.0	0.504	.0781	-0.0187	06.46	0.004	-0.0012	-0.0002		
10.3	00.0	0.652	.1230	-0.0271	05.30	0.005	-0.0012	-0.0002		
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.256	.0253	.0318	-10.12	-0.001	-0.0003	0.0000		
-01.8	00.0	-0.104	.0132	.0141	-07.85	0.000	-0.0004	0.0000		
-00.9	00.0	-0.032	.0110	.0047	-02.88	0.000	-0.0005	-0.0001		
00.1	00.0	0.015	.0112	.0007	01.37	0.000	-0.0005	-0.0001		
01.1	00.0	0.067	.0122	-0.0030	05.51	0.001	-0.0005	-0.0001		
02.0	00.0	0.122	.0156	-0.0097	07.81	0.001	-0.0005	-0.0001		
04.0	00.0	0.263	.0290	-0.0251	09.07	0.002	-0.0008	-0.0002		
06.0	00.0	0.414	.0532	-0.0411	07.79	0.003	-0.0009	-0.0003		
08.0	00.0	0.534	.0848	-0.0526	06.30	0.004	-0.0010	-0.0003		
09.1	00.0	0.605	.1067	-0.0589	05.67	0.004	-0.0011	-0.0003		

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TABLE VI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(b) M = 1.00 to 2.01										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 1.00; R = 2.4×10 <sup>6</sup> /ft										
-03.9	00.0	-0.257	.0294	.0359	-08.74	-0.001	-0.0002	.0000		
-01.9	00.0	-0.116	.0183	.0188	-06.32	0.000	-0.0003	.0000		
-01.0	00.0	-0.047	.0147	.0081	-03.20	0.000	-0.0005	.0000		
00.0	00.0	0.005	.0144	.0022	00.36	0.000	-0.0005	-0.0001		
00.9	00.0	0.075	.0158	-0.061	04.75	0.001	-0.0005	-0.0001		
02.0	00.0	0.121	.0195	-0.113	06.23	0.001	-0.0006	-0.0001		
03.9	00.0	0.244	.0307	-0.0237	07.96	0.002	-0.0007	-0.0002		
05.9	00.0	0.371	.0512	-0.0348	07.25	0.003	-0.0009	-0.0003		
07.9	00.0	0.501	.0835	-0.0490	05.99	0.004	-0.0009	-0.0003		
08.9	00.0	0.566	.0996	-0.0564	05.69	0.004	-0.0010	-0.0003		
M = 1.10; R = 2.4×10 <sup>6</sup> /ft										
-03.9	00.0	-0.242	.0293	.0354	-08.25	-0.001	-0.0002	.0000		
-01.9	00.0	-0.109	.0179	.0181	-06.11	0.000	-0.0002	.0000		
-01.0	00.0	-0.043	.0155	.0079	-02.78	0.000	-0.0003	.0000		
00.0	00.0	0.025	.0149	-0.010	01.68	0.001	-0.0002	-0.0001		
01.0	00.0	0.068	.0158	-0.0083	04.29	0.000	-0.0006	-0.0001		
02.1	00.0	0.107	.0182	-0.0130	05.91	0.001	-0.0007	-0.0001		
04.0	00.0	0.239	.0297	-0.0328	08.06	0.002	-0.0012	-0.0002		
06.0	00.0	0.383	.0522	-0.0493	07.35	0.003	-0.0006	-0.0003		
08.0	00.0	0.512	.0830	-0.0563	06.16	0.004	-0.0006	-0.0004		
M = 1.20; R = 2.5×10 <sup>6</sup> /ft										
-03.9	00.0	-0.222	.0260	.0360	-08.55	-0.001	-0.0002	.0000		
-01.8	00.0	-0.098	.0153	.0181	-06.40	0.000	-0.0004	.0000		
-00.9	00.0	-0.038	.0131	.0080	-02.93	0.000	-0.0005	.0000		
00.1	00.0	0.018	.0124	-0.0013	01.47	0.000	-0.0006	-0.0001		
01.1	00.0	0.066	.0140	-0.0081	04.76	0.000	-0.0007	-0.0001		
02.1	00.0	0.111	.0165	-0.0142	06.75	0.001	-0.0007	-0.0001		
04.1	00.0	0.226	.0276	-0.0289	08.19	0.002	-0.0008	-0.0002		
06.1	00.0	0.353	.0482	-0.0447	07.32	0.003	-0.0009	-0.0003		
08.1	00.0	0.472	.0765	-0.0597	06.17	0.003	-0.0008	-0.0003		
M = 1.60; R = 2.5×10 <sup>6</sup> /ft										
-03.4	00.0	-0.159	.0196	.0240	-08.13	-0.001	-0.0001	.0001		
-01.4	00.0	-0.049	.0128	.0090	-03.83	0.000	-0.0002	.0001		
-00.5	00.0	0.005	.0112	.0014	00.45	0.000	-0.0003	.0000		
00.5	00.0	0.070	.0126	-0.0070	05.58	0.001	-0.0003	.0000		
01.6	00.0	0.072	.0136	-0.0073	05.27	0.001	-0.0004	.0000		
02.4	00.0	0.112	.0162	-0.0120	06.92	0.001	-0.0004	.0000		
04.5	00.0	0.286	.0333	-0.0304	08.61	0.002	-0.0005	-0.0001		
06.4	00.0	0.354	.0503	-0.0373	07.04	0.002	-0.0005	-0.0001		
08.5	00.0	0.404	.0701	-0.0423	05.77	0.003	-0.0005	-0.0001		
10.5	00.0	0.473	.0969	-0.0489	04.88	0.003	-0.0006	-0.0002		
M = 2.01; R = 2.4×10 <sup>6</sup> /ft										
-03.9	00.0	-0.155	.0199	.0218	-07.81	0.000	-0.0002	.0000		
-02.0	00.0	-0.068	.0122	.0119	-05.57	0.000	-0.0003	.0000		
-00.9	00.0	-0.020	.0103	.0058	-01.91	0.001	-0.0004	.0000		
00.0	00.0	0.030	.0104	.0004	02.89	0.001	-0.0003	.0000		
01.1	00.0	0.051	.0113	-0.0019	04.53	0.001	-0.0003	.0000		
02.0	00.0	0.090	.0135	-0.0058	06.70	0.001	-0.0004	.0000		
03.9	00.0	0.203	.0247	-0.0163	08.23	0.002	-0.0004	.0000		
05.9	00.0	0.289	.0406	-0.0235	07.11	0.002	-0.0003	-0.0001		
08.0	00.0	0.389	.0654	-0.0323	05.95	0.003	-0.0004	-0.0002		
10.0	00.0	0.485	.0966	-0.0408	05.02	0.003	-0.0004	.0000		

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TABLE VI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>;  $\delta_c = 0^\circ$  - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 2.51; R = 2.4x10 <sup>6</sup> /ft										
-04.3	00.0	-0.129	.0193	.0163	-06.68	0.000	-0.0001	.0002		
-02.2	00.0	-0.068	.0122	.0103	-05.59	0.000	0.000	0.000		
-00.2	00.0	-0.004	.0093	.0030	-00.43	0.001	0.000	0.000		
01.8	00.0	0.063	.0116	-.0035	05.40	0.001	-0.0001	0.000		
03.9	00.0	0.127	.0186	-.0092	06.84	0.002	-0.0001	-0.0001		
06.1	00.0	0.190	.0304	-.0143	06.27	0.003	-0.0001	-0.0003		
08.1	00.0	0.253	.0464	-.0191	05.45	0.003	-0.0001	-0.0004		
10.2	00.0	0.314	.0669	-.0236	04.69	0.004	-0.0002	-0.0005		
-00.2	-02.0	0.000	.0094	.0025	-00.02	0.003	-0.0001	.0018		
-00.2	00.0	-0.001	.0093	.0026	-00.10	0.001	0.000	0.000		
-00.2	02.0	-0.001	.0094	.0028	-00.10	-0.002	0.000	-0.0018		
-00.2	04.0	-0.001	.0096	.0028	-00.14	-0.005	0.000	-0.0037		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.111	.0174	.0133	-06.38	0.000	-0.0001	.0000		
-02.2	00.0	-0.057	.0109	.0081	-05.19	0.000	0.000	0.000		
-00.2	00.0	-0.002	.0083	.0030	-00.29	0.001	-0.0001	0.000		
01.8	00.0	0.054	.0103	-.0015	05.23	0.001	0.000	-0.0001		
03.9	00.0	0.110	.0166	-.0060	06.62	0.002	-0.0001	-0.0002		
06.0	00.0	0.164	.0267	-.0097	06.15	0.002	-0.0001	-0.0003		
08.0	00.0	0.218	.0405	-.0131	05.38	0.003	-0.0001	-0.0004		
10.1	00.0	0.271	.0583	-.0166	04.65	0.003	-0.0002	-0.0004		
-00.2	-02.0	0.001	.0084	.0029	00.17	0.003	-0.0001	.0024		
-00.2	00.0	0.001	.0082	.0031	00.07	0.001	-0.0001	0.0000		
-00.2	02.0	0.000	.0084	.0030	00.02	-0.002	0.000	-0.0024		
-00.2	04.0	0.000	.0086	.0029	-00.03	-0.006	0.000	-0.0047		
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.093	.0150	.0094	-06.21	0.000	.0000	.0002		
-02.2	00.0	-0.047	.0096	.0062	-04.89	0.000	0.000	.0001		
-00.1	00.0	0.000	.0074	.0028	00.02	0.001	0.000	.0001		
01.8	00.0	0.048	.0093	-.0001	05.15	0.001	0.000	.0001		
03.9	00.0	0.095	.0145	-.0030	06.55	0.002	-0.0001	0.0000		
05.9	00.0	0.142	.0234	-.0058	06.07	0.002	-0.0001	-0.0001		
08.0	00.0	0.190	.0358	-.0083	05.32	0.003	-0.0002	-0.0001		
10.0	00.0	0.237	.0514	-.0109	04.61	0.004	-0.0002	-0.0002		
-00.2	-02.0	0.002	.0074	.0026	00.27	0.004	0.000	.0026		
-00.2	00.0	0.002	.0073	.0026	00.21	0.001	0.000	.0001		
-00.2	02.0	0.002	.0074	.0026	00.21	-0.002	0.000	-0.0024		
-00.2	04.0	0.001	.0076	.0026	00.08	-0.007	0.000	-0.0048		

TABLE VII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>V<sub>1</sub>

(a) M = 0.25 to 0.94										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.169	.0172	.0146	-09.79	-0.002	-.0010	.0005		
-01.6	00.0	-0.076	.0101	.0061	-07.52	-0.001	-.0011	.0004		
00.3	00.0	0.012	.0081	-.0024	01.52	-0.001	-.0010	.0003		
02.4	00.0	0.102	.0122	-.0138	08.31	0.001	-.0010	.0001		
04.3	00.0	0.204	.0224	-.0225	09.07	0.002	-.0010	-.0001		
06.4	00.0	0.311	.0399	-.0315	07.79	0.000	-.0013	-.0001		
08.4	00.0	0.429	.0675	-.0400	06.35	0.001	-.0015	-.0001		
10.4	00.0	0.532	.1003	-.0454	05.31	0.002	-.0012	-.0006		
M = 0.64; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.196	.0191	.0189	-10.27	-0.001	-.0007	.0007		
-01.5	00.0	-0.083	.0104	.0075	-08.01	0.000	-.0007	.0005		
00.4	00.0	0.013	.0081	-.0032	01.64	0.000	-.0006	.0004		
02.4	00.0	0.112	.0126	-.0151	08.85	0.001	-.0007	.0003		
04.3	00.0	0.220	.0232	-.0254	09.48	0.000	-.0009	.0002		
06.3	00.0	0.339	.0430	-.0373	07.87	0.002	-.0009	.0000		
08.3	00.0	0.461	.0712	-.0493	06.48	0.003	-.0010	-.0002		
10.4	00.0	0.577	.1079	-.0590	05.35	0.003	-.0014	-.0005		
M = 0.74; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.202	.0198	.0218	-10.25	-0.001	-.0006	.0008		
-01.7	00.0	-0.092	.0110	.0097	-08.36	-0.001	-.0007	.0005		
00.2	00.0	0.008	.0084	-.0021	00.95	0.000	-.0006	.0004		
02.2	00.0	0.108	.0123	-.0152	08.84	0.001	-.0007	.0003		
04.2	00.0	0.221	.0231	-.0275	09.55	0.001	-.0008	.0002		
06.2	00.0	0.344	.0432	-.0405	07.98	0.002	-.0009	.0000		
08.2	00.0	0.468	.0713	-.0550	06.57	0.002	-.0010	-.0001		
10.2	00.0	0.599	.1113	-.0697	05.38	0.004	-.0014	-.0004		
M = 0.84; R = 2.0x10 <sup>6</sup> /ft										
-03.8	00.0	-0.219	.0211	.0275	-10.37	-0.001	-.0007	.0005		
-01.8	00.0	-0.103	.0114	.0129	-09.04	0.000	-.0007	.0003		
00.1	00.0	0.003	.0081	-.0016	00.37	0.000	-.0005	.0002		
02.1	00.0	0.107	.0121	-.0160	08.82	0.001	-.0007	.0001		
04.1	00.0	0.224	.0229	-.0310	09.79	0.001	-.0008	.0000		
06.1	00.0	0.346	.0428	-.0467	08.10	0.002	-.0009	-.0001		
08.2	00.0	0.487	.0744	-.0679	06.55	0.003	-.0009	-.0003		
10.2	00.0	0.620	.1144	-.0886	05.42	0.004	-.0014	-.0004		
M = 0.94; R = 2.0x10 <sup>6</sup> /ft										
-04.1	00.0	-0.267	.0277	.0517	-09.63	-0.001	-.0006	.0005		
-02.1	00.0	-0.125	.0154	.0231	-08.10	0.000	-.0006	.0003		
00.0	00.0	0.000	.0103	.0005	00.00	0.000	-.0006	.0001		
02.0	00.0	0.116	.0147	-.0218	07.86	0.001	-.0007	.0001		
03.8	00.0	0.242	.0264	-.0476	09.16	0.002	-.0009	-.0001		
05.9	00.0	0.388	.0488	-.0793	07.95	0.003	-.0010	-.0004		
07.9	00.0	0.531	.0824	-.1099	06.44	0.003	-.0009	-.0005		
09.9	00.0	0.661	.1239	-.1376	05.34	0.004	-.0010	-.0007		

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TABLE VII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>V<sub>1</sub> - Continued

(b) M = 0.99 to 1.99										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 0.99; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.258	.0311	.0526	-08.27	-0.001	-.0007	.0006		
-02.1	00.0	-0.131	.0191	.0265	-06.85	0.000	-.0006	.0004		
-00.1	00.0	-0.009	.0147	.0011	-00.60	0.000	-.0005	.0002		
01.9	00.0	0.109	.0176	-.0226	06.20	0.001	-.0007	.0000		
03.8	00.0	0.233	.0286	-.0474	08.17	0.002	-.0008	-.0002		
05.7	00.0	0.358	.0480	-.0725	07.46	0.003	-.0008	-.0005		
07.7	00.0	0.488	.0780	-.1014	06.25	0.003	-.0008	-.0004		
09.8	00.0	0.623	.1170	-.1315	05.33	0.004	-.0010	-.0006		
M = 1.09; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.243	.0292	.0509	-08.31	0.000	-.0006	.0003		
-02.1	00.0	-0.124	.0179	.0254	-06.94	0.000	-.0005	.0004		
00.0	00.0	-0.003	.0139	.0001	-00.25	0.000	-.0007	.0003		
02.1	00.0	0.113	.0179	-.0259	06.29	0.001	-.0007	.0003		
03.9	00.0	0.239	.0282	-.0577	08.48	0.001	-.0009	.0001		
06.0	00.0	0.376	.0503	-.0833	07.48	0.002	-.0006	.0000		
07.9	00.0	0.492	.0789	-.1013	06.24	0.003	-.0006	-.0004		
10.0	00.0	0.600	.1152	-.1203	05.21	0.003	-.0008	-.0006		
M = 1.19; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.222	.0260	.0495	-08.55	-0.001	-.0005	.0006		
-01.9	00.0	-0.110	.0155	.0240	-07.10	0.000	-.0005	.0004		
00.1	00.0	0.004	.0117	-.0018	00.33	0.000	-.0006	.0002		
02.0	00.0	0.107	.0155	-.0257	06.86	0.001	-.0008	.0001		
04.0	00.0	0.221	.0262	-.0512	08.45	0.001	-.0009	.0001		
06.0	00.0	0.339	.0451	-.0777	07.51	0.002	-.0008	-.0001		
08.0	00.0	0.460	.0739	-.1052	06.23	0.003	-.0006	-.0002		
10.0	00.0	0.569	.1085	-.1268	05.24	0.002	-.0003	.0002		
M = 1.59; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.155	.0201	.0351	-07.71	0.000	-.0004	.0006		
-01.6	00.0	-0.070	.0131	.0154	-05.34	0.000	-.0005	.0005		
00.3	00.0	0.014	.0106	-.0031	01.34	0.000	-.0005	.0004		
02.4	00.0	0.098	.0148	-.0224	06.63	0.001	-.0005	.0004		
04.2	00.0	0.179	.0232	-.0410	07.72	0.001	-.0005	.0003		
06.2	00.0	0.265	.0380	-.0606	06.96	0.002	-.0005	.0002		
08.3	00.0	0.348	.0594	-.0792	05.87	0.003	-.0006	-.0002		
10.2	00.0	0.426	.0846	-.0960	05.03	0.003	-.0005	-.0002		
M = 1.99; R = 2.0x10 <sup>6</sup> /ft										
-04.3	00.0	-0.149	.0206	.0326	-07.25	0.000	-.0004	-.0002		
-02.3	00.0	-0.083	.0129	.0179	-06.43	0.000	-.0004	-.0003		
-00.3	00.0	-0.015	.0097	.0031	-01.53	0.001	-.0004	-.0003		
01.7	00.0	0.054	.0113	-.0113	04.80	0.001	-.0004	-.0003		
03.6	00.0	0.11-	.0170	-.0253	06.91	0.001	-.0004	-.0004		
05.7	00.0	0.186	.0278	-.0399	06.71	0.002	-.0004	-.0004		
07.7	00.0	0.251	.0429	-.0538	05.84	0.002	-.0004	-.0004		
09.7	00.0	0.312	.0617	-.0670	05.06	0.003	-.0005	-.0005		

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TABLE VII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>V<sub>1</sub> - Continued

(c) M = 2.51 to 3.00										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{N_c}$	$C_{h_c}$
M = 2.51; R = 2.4x10 <sup>6</sup> /ft										
-04.3	00.0	-0.126	.0194	.0263	-06.51	0.000	-0.0002	.0002		
-02.3	00.0	-0.067	.0125	.0142	-05.38	0.000	-0.0002	.0002		
-00.2	00.0	-0.005	.0096	.0010	-00.52	0.000	-0.0002	.0001		
01.8	00.0	0.058	.0115	-0.0122	05.01	0.001	-0.0002	.0001		
03.9	00.0	0.118	.0178	-0.0246	06.66	0.001	-0.0001	.0000		
05.9	00.0	0.177	.0281	-0.0365	06.29	0.002	-0.0001	.0000		
08.0	00.0	0.235	.0428	-0.0481	05.50	0.003	-0.0001	-0.0001		
10.1	00.0	0.292	.0613	-0.0584	04.76	0.003	-0.0002	-0.0001		
-00.2	-02.0	-0.001	.0099	.0004	-00.14	0.012	.0009	-0.0039		
-00.2	00.0	-0.002	.0097	.0004	-00.22	0.000	-0.0001	.0001		
-00.2	01.9	-0.002	.0097	.0007	-00.18	-0.011	-0.0012	.0042		
-00.2	03.9	-0.002	.0099	.0013	-00.25	-0.022	-0.0023	.0080		
02.8	-02.0	0.088	.0141	-0.0184	06.21	0.012	.0010	-0.0035		
02.8	00.0	0.088	.0140	-0.0183	06.26	0.001	-0.0002	.0000		
02.8	01.9	0.088	.0141	-0.0182	06.27	-0.010	-0.0013	.0036		
02.8	03.9	0.088	.0142	-0.0179	06.18	-0.021	-0.0024	.0069		
05.9	-02.0	0.177	.0281	-0.0368	06.32	0.013	.0012	-0.0030		
05.9	00.0	0.178	.0281	-0.0367	06.32	0.002	-0.0002	-0.0001		
05.9	01.9	0.179	.0283	-0.0370	06.32	-0.010	-0.0015	.0030		
05.9	04.0	0.179	.0284	-0.0367	06.30	-0.021	-0.0027	.0056		
10.1	-02.0	0.292	.0612	-0.0588	04.77	0.014	.0016	-0.0018		
10.1	00.0	0.292	.0614	-0.0585	04.76	0.003	-0.0003	-0.0001		
10.1	02.0	0.293	.0613	-0.0586	04.77	-0.009	-0.0021	.0017		
10.1	04.0	0.292	.0612	-0.0583	04.78	-0.021	-0.0038	.0031		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.108	.0174	.0217	-06.22	0.000	-0.0001	.0000		
-02.3	00.0	-0.056	.0111	.0117	-05.08	0.000	-0.0001	.0000		
-00.2	00.0	-0.004	.0084	.0013	-00.49	0.000	-0.0001	.0000		
01.8	00.0	0.048	.0102	-0.0090	04.75	0.001	-0.0001	.0000		
03.8	00.0	0.101	.0159	-0.0193	06.37	0.001	.0000	-0.0001		
05.9	00.0	0.152	.0249	-0.0292	06.11	0.002	-0.0001	-0.0001		
07.9	00.0	0.202	.0374	-0.0383	05.42	0.003	-0.0001	-0.0002		
10.0	00.0	0.253	.0537	-0.0463	04.71	0.003	-0.0001	-0.0003		
-00.2	-02.0	-0.001	.0087	.0009	-00.13	0.011	.0009	-0.0027		
-00.2	00.0	-0.002	.0083	.0008	-00.19	0.000	-0.0001	.0001		
-00.2	01.9	-0.002	.0086	.0012	-00.18	-0.010	-0.0010	.0028		
-00.2	03.9	-0.002	.0089	.0016	-00.22	-0.021	-0.0020	.0056		
02.8	-02.0	0.075	.0125	-0.0142	05.99	0.011	.0007	-0.0021		
02.8	00.0	0.075	.0123	-0.0141	06.10	0.001	-0.0001	.0000		
02.8	01.9	0.075	.0125	-0.0141	06.03	-0.009	-0.0009	.0020		
02.8	03.9	0.075	.0127	-0.0138	05.94	-0.019	-0.0017	.0042		
05.9	-02.0	0.152	.0247	-0.0290	06.17	0.012	.0011	-0.0014		
05.9	00.0	0.153	.0247	-0.0291	06.17	0.002	.0000	-0.0001		
05.9	01.9	0.154	.0249	-0.0293	06.18	-0.008	-0.0012	.0012		
05.9	04.0	0.153	.0249	-0.0287	06.13	-0.019	-0.0023	.0026		
10.0	-02.0	0.253	.0537	-0.0466	04.72	0.013	.0017	.0000		
10.0	00.0	0.253	.0538	-0.0463	04.71	0.003	-0.0001	-0.0003		
10.0	02.0	0.254	.0540	-0.0465	04.71	-0.007	-0.0020	-0.0005		
10.0	04.0	0.254	.0540	-0.0461	04.71	-0.019	-0.0038	-0.0003		

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TABLE VII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>V<sub>1</sub> - Concluded

(d) M = 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.091	.0149	.0167	-06.09	0.000	.0000	.0004		
-02.2	00.0	-0.047	.0096	.0088	-04.89	0.000	.0000	.0003		
-00.2	00.0	-0.003	.0074	.0009	-00.35	0.000	.0000	.0003		
01.7	00.0	0.042	.0090	-.0071	04.65	0.001	-.0001	.0002		
03.8	00.0	0.086	.0138	-.0151	06.28	0.001	-.0001	.0002		
05.8	00.0	0.132	.0219	-.0230	06.06	0.002	-.0002	.0002		
07.9	00.0	0.178	.0333	-.0305	05.34	0.002	-.0002	.0002		
09.9	00.0	0.223	.0479	-.0373	04.65	0.002	-.0002	.0001		
-00.2	-02.0	0.000	.0077	.0007	-00.05	0.010	.0008	-.0022		
-00.2	00.0	0.000	.0074	.0005	-00.05	0.000	-.0001	.0002		
-00.2	01.9	0.000	.0076	.0008	-00.05	-0.010	-.0009	.0028		
-00.2	03.9	-0.001	.0078	.0013	-00.10	-0.021	-.0018	.0048		
02.8	-02.0	0.064	.0109	-.0109	05.86	0.011	.0007	-.0014		
02.8	00.0	0.065	.0109	-.0111	05.97	0.001	-.0001	.0002		
02.8	01.9	0.064	.0110	-.0110	05.88	-0.009	-.0009	.0019		
02.8	03.9	0.064	.0110	-.0103	05.80	-0.019	-.0016	.0033		
05.8	-02.0	0.131	.0215	-.0228	06.10	0.011	.0009	-.0006		
05.8	00.0	0.132	.0218	-.0230	06.08	0.001	-.0001	.0002		
05.8	02.0	0.133	.0218	-.0230	06.07	-0.009	-.0011	.0009		
05.8	04.0	0.132	.0217	-.0221	06.06	-0.019	-.0021	.0016		
10.0	-02.0	0.222	.0479	-.0369	04.64	0.013	.0018	.0007		
10.0	00.0	0.224	.0482	-.0373	04.64	0.003	-.0002	.0001		
10.0	02.0	0.222	.0479	-.0368	04.63	-0.008	-.0023	-.0005		
10.0	04.0	0.221	.0477	-.0361	04.64	-0.019	-.0042	-.0009		

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TABLE VIII.-- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>C</sub> = 0°

(a) M = 0.25 to 0.65										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 0.25; R = 2.0×10 <sup>6</sup> /ft										
-03.5	00.0	-0.178	.0194	-0.0006	-09.15	-0.005	-0.0001	.0013		
-01.4	00.0	-0.077	.0123	-0.0005	-06.29	-0.005	-0.0002	.0013		
-00.4	00.0	-0.034	.0105	-0.0017	-03.26	-0.004	-0.0002	.0012		
00.4	00.0	0.011	.0096	-0.0021	01.14	-0.004	-0.0002	.0012		
01.5	00.0	0.056	.0111	-0.0025	05.04	-0.003	-0.0001	.0009		
02.4	00.0	0.104	.0136	-0.0022	07.67	-0.002	-0.0001	.0008		
04.4	00.0	0.211	.0252	-0.0001	08.37	-0.001	-0.0005	.0008		
06.4	00.0	0.323	.0436	.0024	07.42	0.001	-0.0007	.0006		
08.5	00.0	0.444	.0723	.0063	06.14	0.002	-0.0007	.0001		
10.4	00.0	0.557	.1067	.0124	05.22	0.003	-0.0008	-0.0001		
00.4	-02.6	0.009	.0091	-0.0025	00.93	0.015	.0008	-0.0063		
00.4	02.4	0.007	.0093	-0.0028	00.69	-0.019	-0.0024	.0081		
00.4	04.9	-0.004	.0104	-0.0008	-00.26	-0.042	-0.0054	.0187		
03.4	-02.6	0.156	.0178	-0.0028	08.42	0.016	.0020	-0.0066		
03.4	02.4	0.156	.0186	-0.0025	08.05	-0.018	-0.0038	.0078		
03.4	04.9	0.173	.0203	-0.0024	07.27	-0.041	-0.0079	.0187		
06.5	-02.6	0.325	.0443	.0012	07.21	0.017	.0027	-0.0062		
06.5	02.4	0.327	.0451	.0011	07.16	-0.014	-0.0052	.0067		
06.4	04.9	0.338	.0461	.0007	06.89	-0.036	-0.0102	.0168		
10.4	-02.6	0.566	.1089	.0124	05.17	0.016	.0036	-0.0036		
10.4	02.4	0.554	.1066	.0113	05.19	-0.006	-0.0063	.0024		
10.4	04.8	0.567	.1088	.0112	05.11	-0.031	-0.0121	.0122		
M = 0.65; R = 2.0×10 <sup>6</sup> /ft										
-03.6	00.0	-0.193	.0198	.0037	-09.74	-0.004	-0.0004	.0013	-0.103	.0258
-01.5	00.0	-0.087	.0115	.0024	-07.56	-0.003	-0.0004	.0011	-0.033	.0097
-00.5	00.0	-0.034	.0097	.0002	-03.49	-0.003	-0.0004	.0011	-0.008	.0038
00.4	00.0	0.012	.0093	-0.0007	01.33	-0.002	-0.0003	.0010	0.025	-0.0059
01.4	00.0	0.060	.0109	-0.0015	05.49	-0.002	-0.0004	.0009	0.064	-0.0158
02.4	00.0	0.110	.0137	-0.0022	08.02	-0.001	-0.0005	.0009	0.095	-0.0221
04.2	00.0	0.221	.0246	-0.0019	08.96	-0.001	-0.0006	.0006	0.172	-0.0379
06.3	00.0	0.340	.0445	-0.0015	07.63	0.001	-0.0007	.0005	0.260	-0.0560
08.3	00.0	0.465	.0734	-0.0005	06.33	0.002	-0.0010	.0003	0.349	-0.0756
10.3	00.0	0.589	.1119	.0017	05.26	0.004	-0.0010	.0000	0.444	-0.0957
00.4	-02.6	0.011	.0089	-0.0008	01.09	0.017	.0009	-0.0063		
00.4	02.4	0.015	.0092	-0.0013	01.49	-0.019	-0.0024	.0082		
00.3	04.9	-0.002	.0092	.0001	-00.18	-0.042	-0.0047	.0188		
03.4	-02.6	0.170	.0183	-0.0031	08.89	0.018	.0024	-0.0065		
03.4	02.4	0.173	.0186	-0.0034	08.95	-0.017	-0.0039	.0078		
03.3	04.9	0.160	.0179	-0.0029	07.52	-0.040	-0.0075	.0184		
06.4	-02.6	0.345	.0452	-0.0025	07.51	0.019	.0030	-0.0061		
06.3	02.4	0.354	.0461	-0.0022	07.59	-0.014	-0.0052	.0065		
06.3	04.9	0.324	.0425	-0.0021	07.15	-0.036	-0.0096	.0168		
10.4	-02.6	0.600	.1142	.0016	05.22	0.017	.0048	-0.0034		
10.4	02.4	0.612	.1165	.0022	05.24	-0.007	-0.0074	.0022		
10.3	04.8	0.571	.1079	.0010	05.19	-0.030	-0.0131	.0120		

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TABLE VIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(b) M = 0.85 to 0.95										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h</sub>
M = 0.85; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.218	.0217	.0124	-10.05	-0.003	-0.0004	.0011	-0.116	.0327
-01.7	00.0	-0.108	.0120	.0077	-09.00	-0.003	-0.0004	.0010	-0.040	.0123
-00.7	00.0	-0.050	.0098	.0032	-05.06	-0.002	-0.0004	.0009	-0.007	.0030
00.3	00.0	0.004	.0094	.0006	00.40	-0.002	-0.0004	.0009	0.020	-0.0033
01.3	00.0	0.055	.0109	-.0015	05.01	-0.002	-0.0005	.0008	0.056	-0.0128
02.2	00.0	0.104	.0134	-.0038	07.76	-0.001	-0.0005	.0008	0.086	-0.0190
04.2	00.0	0.222	.0247	-.0075	09.02	0.000	-0.0007	.0006	0.170	-0.0394
06.2	00.0	0.346	.0451	-.0112	07.69	0.001	-0.0008	.0004	0.260	-0.0615
08.3	00.0	0.483	.0764	-.0166	06.32	0.002	-0.0009	.0002	0.356	-0.0858
10.3	00.0	0.620	.1179	-.0248	05.26	0.003	-0.0009	-.0001	0.453	-0.1108
00.2	-02.6	0.001	.0090	.0005	00.12	0.017	.0012	-.0068		
00.2	02.4	0.006	.0091	.0006	00.61	-0.019	-.0023	.0086		
00.2	04.9	-0.011	.0091	.0022	-00.90	-0.042	-.0049	.0196		
03.1	-02.6	0.166	.0178	-.0060	08.91	0.018	.0025	-.0071		
03.2	02.4	0.170	.0179	-.0061	09.12	-0.018	-.0041	.0084		
03.1	04.9	0.158	.0173	-.0050	07.60	-0.041	-.0080	.0193		
06.1	-02.6	0.353	.0450	-.0115	07.69	0.020	.0030	-.0069		
06.1	02.4	0.361	.0460	-.0121	07.74	-0.015	-.0054	.0073		
06.0	04.9	0.332	.0422	-.0102	07.32	-0.038	-.0102	.0181		
10.2	-02.6	0.635	.1192	-.0240	05.30	0.018	.0049	-.0045		
10.1	02.3	0.635	.1188	-.0244	05.33	-0.009	-.0077	.0034		
10.1	04.8	0.595	.1106	-.0204	05.27	-0.030	-.0134	.0129		
M = 0.95; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.258	.0288	.0334	-08.96	-0.003	-0.0004	.0011	-0.130	.0434
-01.8	00.0	-0.127	.0174	.0165	-07.31	-0.002	-0.0004	.0010	-0.050	.0185
-01.0	00.0	-0.066	.0126	.0083	-05.26	-0.002	-0.0005	.0009	-0.015	.0070
00.1	00.0	-0.003	.0141	.0025	-00.24	-0.002	-0.0004	.0008	0.021	-0.045
01.0	00.0	0.046	.0141	-.0012	03.25	-0.001	-0.0005	.0008	0.056	-0.0146
02.1	00.0	0.106	.0170	-.0072	06.26	-0.001	-0.0006	.0007	0.095	-0.0248
04.0	00.0	0.236	.0289	-.0208	08.16	0.000	-0.0007	.0005	0.181	-0.0506
06.1	00.0	0.368	.0517	-.0341	07.11	0.001	-0.0007	.0004	0.276	-0.0806
08.0	00.0	0.507	.0830	-.0500	06.10	0.002	-0.0007	.0002	0.373	-0.1108
10.1	00.0	0.639	.1247	-.0616	05.13	0.003	-0.0008	-.0002	0.465	-0.1376
-00.1	-02.6	-0.006	.0116	.0040	-00.48	0.018	.0013	-.0075		
00.0	02.4	-0.004	.0119	.0036	-00.30	-0.020	-.0025	.0091		
-00.1	04.9	-0.022	.0113	.0072	-01.49	-0.043	-.0052	.0207		
03.0	-02.6	0.185	.0201	-.0157	08.80	0.020	.0023	-.0078		
02.9	02.4	0.183	.0213	-.0159	08.32	-0.019	-.0043	.0090		
02.8	04.9	0.161	.0190	-.0122	07.12	-0.043	-.0081	.0208		
05.9	-02.6	0.391	.0504	-.0396	07.63	0.021	.0032	-.0078		
05.9	02.4	0.396	.0520	-.0404	07.52	-0.016	-.0056	.0078		
05.9	04.9	0.370	.0486	-.0354	07.13	-0.040	-.0104	.0195		
10.0	-02.6	0.671	.1291	-.0671	05.16	0.019	.0053	-.0051		
10.0	02.3	0.667	.1289	-.0659	05.16	-0.009	-.0076	.0036		
09.9	04.8	0.637	.1211	-.0636	05.17	-0.031	-.0140	.0141		

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TABLE VIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(c) M = 1.00 to 1.10										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 1.00; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.256	.0325	.0372	-07.88	-0.003	-0.0004	.0011	-0.125	.0430
-02.0	00.0	-0.135	.0189	.0212	-07.16	-0.002	-0.0004	.0010	-0.049	.0181
-01.0	00.0	-0.074	.0172	.0127	-04.31	-0.002	-0.0005	.0010	-0.014	.0068
00.0	00.0	-0.012	.0148	.0043	-00.80	-0.002	-0.0005	.0009	0.016	-0.0030
00.9	00.0	0.042	.0174	-0.0023	02.43	-0.001	-0.0005	.0007	0.052	-0.0142
02.0	00.0	0.099	.0191	-0.0088	05.20	-0.001	-0.0005	.0006	0.090	-0.0252
04.0	00.0	0.223	.0314	-0.0216	07.12	0.000	-0.0006	.0005	0.168	-0.0476
06.0	00.0	0.345	.0526	-0.0327	06.56	0.001	-0.0007	.0003	0.258	-0.0754
07.9	00.0	0.476	.0796	-0.0461	05.98	0.002	-0.0006	.0001	0.348	-0.1031
09.0	00.0	0.545	.0983	-0.0541	05.54	0.002	-0.0007	-0.0002	0.397	-0.1181
00.0	-02.6	-0.002	.0142	.0020	-00.14	0.018	.0012	-0.0075		
00.0	02.4	0.000	.0150	.0028	-00.03	-0.020	-0.0027	.0095		
-00.1	04.9	-0.017	.0149	.0060	-00.90	-0.044	-0.0051	.0210		
02.7	-02.6	0.165	.0224	-0.0172	07.11	0.020	.0026	-0.0078		
02.8	02.4	0.173	.0232	-0.0177	07.21	-0.019	-0.0043	.0091		
02.7	04.9	0.154	.0215	-0.0144	06.12	-0.043	-0.0082	.0204		
05.8	-02.6	0.365	.0503	-0.0368	07.14	0.021	.0038	-0.0078		
05.8	02.4	0.366	.0491	-0.0365	07.35	-0.017	-0.0059	.0081		
05.8	04.9	0.346	.0477	-0.0336	06.79	-0.040	-0.0110	.0194		
09.9	-02.6	0.627	.1220	-0.0647	05.11	0.020	.0049	-0.0056		
09.9	02.3	0.630	.1228	-0.0646	05.12	-0.009	-0.0072	.0035		
09.8	04.8	0.599	.1166	-0.0614	05.04	-0.031	-0.0131	.0136		
M = 1.10; R = 2.0x10 <sup>6</sup> /ft										
-03.8	00.0	-0.234	.0299	.0336	-07.83	-0.002	-0.0001	.0008	-0.113	.0400
-01.8	00.0	-0.120	.0188	.0187	-06.38	-0.003	-0.0001	.0010	-0.040	.0154
-00.9	00.0	-0.067	.0165	.0098	-04.09	-0.002	-0.0004	.0009	-0.013	.0063
00.0	00.0	-0.012	.0155	.0021	-00.75	-0.002	-0.0004	.0009	0.017	-0.0028
01.0	00.0	0.040	.0163	-0.0045	02.44	-0.001	-0.0003	.0008	0.053	-0.0134
02.0	00.0	0.096	.0189	-0.0123	05.11	-0.001	-0.0006	.0008	0.085	-0.0227
04.0	00.0	0.220	.0299	-0.0279	07.35	0.000	-0.0007	.0006	0.168	-0.0464
06.0	00.0	0.356	.0501	-0.0498	07.10	0.001	-0.0006	.0005	0.252	-0.0735
08.1	00.0	0.483	.0811	-0.0546	05.96	0.002	-0.0004	.0000	0.334	-0.0978
09.0	00.0	0.542	.0981	-0.0578	05.52	0.002	-0.0005	-0.0002	0.378	-0.1110
00.0	-02.6	-0.007	.0149	.0016	-00.44	0.019	.0012	-0.0085		
00.0	02.4	-0.002	.0153	.0012	-00.09	-0.021	-0.0024	.0100		
00.0	04.9	-0.022	.0154	.0039	-01.15	-0.044	-0.0049	.0214		
02.9	-02.6	0.170	.0229	-0.0276	07.13	0.022	.0023	-0.0094		
03.0	02.4	0.171	.0237	-0.0230	06.99	-0.020	-0.0041	.0097		
02.9	04.9	0.148	.0226	-0.0174	05.63	-0.043	-0.0073	.0208		
06.0	-02.6	0.378	.0528	-0.0498	07.04	0.021	.0046	-0.0077		
06.0	02.4	0.377	.0527	-0.0513	07.06	-0.016	-0.0060	.0077		
05.9	04.9	0.352	.0492	-0.0474	06.72	-0.038	-0.0112	.0186		
10.0	-02.6	0.619	.1212	-0.0646	05.08	0.018	.0054	-0.0046		
09.9	02.3	0.616	.1195	-0.0643	05.14	-0.008	-0.0072	.0029		
09.9	04.8	0.583	.1134	-0.0623	05.06	-0.028	-0.0132	.0116		

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TABLE VIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(d) M = 1.20 to 1.60										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 1.20; R = 2.0×10 <sup>6</sup> /ft										
-03.8	00.0	-0.219	.0267	.0350	-08.22	-0.003	-.0003	.0014	-0.107	.0373
-01.8	00.0	-0.112	.0166	.0195	-06.74	-0.003	-.0004	.0014	-0.038	.0136
-00.8	00.0	-0.057	.0142	.0105	-04.05	-0.002	-.0004	.0012	-0.007	.0036
00.1	00.0	-0.004	.0132	.0016	-00.32	-0.002	-.0005	.0010	0.016	-0.0027
01.1	00.0	0.050	.0143	-.0067	03.49	-0.001	-.0006	.0009	0.048	-0.0115
02.1	00.0	0.100	.0167	-.0136	05.95	-0.001	-.0007	.0008	0.081	-0.0216
04.1	00.0	0.213	.0275	-.0280	07.75	0.000	-.0006	.0007	0.151	-0.0417
06.0	00.0	0.330	.0463	-.0429	07.13	0.000	-.0007	.0006	0.230	-0.0678
08.1	00.0	0.453	.0751	-.0578	06.03	0.001	-.0005	.0005	0.310	-0.0925
09.1	00.0	0.510	.0915	-.0647	05.57	0.002	-.0006	.0003	0.347	-0.1039
00.0	-02.6	0.000	.0127	.0003	-00.03	0.020	.0013	-.0088		
00.0	02.4	0.000	.0131	.0007	-00.03	-0.020	-.0027	.0099		
00.0	04.9	-0.013	.0131	.0041	-00.74	-0.045	-.0052	.0219		
03.0	-02.6	0.157	.0208	-.0219	07.21	0.021	.0022	-.0086		
03.0	02.4	0.168	.0217	-.0235	07.46	-0.020	-.0041	.0092		
02.9	04.9	0.150	.0206	-.0202	06.13	-0.045	-.0076	.0212		
06.0	-02.6	0.347	.0480	-.0464	07.10	0.021	.0039	-.0069		
06.0	02.4	0.346	.0478	-.0468	07.13	-0.017	-.0052	.0074		
06.0	04.9	0.328	.0456	-.0436	06.71	-0.040	-.0101	.0186		
10.1	-02.6	0.586	.1141	-.0707	05.11	0.015	.0051	-.0014		
10.1	02.3	0.592	.1152	-.0713	05.13	-0.007	-.0067	.0003		
10.0	04.8	0.563	.1090	-.0683	05.07	-0.028	-.0122	.0091		
M = 1.60; R = 2.0×10 <sup>6</sup> /ft										
-03.4	00.0	-0.155	.0207	.0243	-07.52	-0.002	-.0002	.0010	-0.074	.0260
-01.4	00.0	-0.073	.0139	.0133	-05.22	-0.002	-.0002	.0010	-0.021	.0079
-00.5	00.0	-0.032	.0124	.0073	-02.55	-0.002	-.0002	.0010	0.000	.0011
00.5	00.0	0.007	.0118	.0018	00.61	-0.001	-.0002	.0010	0.025	-.0069
01.5	00.0	0.047	.0135	-.0036	03.49	-0.001	-.0003	.0009	0.047	-.0137
02.5	00.0	0.091	.0161	-.0090	05.67	-0.001	-.0003	.0009	0.079	-.0229
04.4	00.0	0.173	.0247	-.0184	07.01	-0.001	-.0003	.0008	0.133	-.0380
06.5	00.0	0.261	.0402	-.0278	06.50	0.000	-.0004	.0007	0.194	-.0554
08.5	00.0	0.349	.0623	-.0370	05.60	0.001	-.0003	.0005	0.256	-.0738
10.5	00.0	0.429	.0890	-.0450	04.82	0.001	-.0004	.0003	0.308	-.0887
00.4	-02.6	0.013	.0117	.0006	01.02	0.018	.0016	-.0076		
00.3	02.4	0.014	.0123	.0009	01.10	-0.019	-.0026	.0089		
00.2	04.9	0.005	.0121	.0026	00.31	-0.040	-.0048	.0183		
03.3	-02.6	0.135	.0195	-.0154	06.65	0.019	.0023	-.0074		
03.3	02.4	0.139	.0200	-.0142	06.68	-0.018	-.0033	.0084		
03.2	04.9	0.130	.0195	-.0132	05.74	-0.039	-.0062	.0173		
06.3	-02.6	0.267	.0401	-.0299	06.51	0.020	.0030	-.0068		
06.3	02.4	0.273	.0411	-.0294	06.54	-0.016	-.0042	.0072		
06.2	04.9	0.254	.0386	-.0272	06.11	-0.036	-.0075	.0148		
10.3	-02.6	0.437	.0897	-.0473	04.83	0.020	.0031	-.0050		
10.3	02.3	0.443	.0904	-.0469	04.88	-0.012	-.0045	.0034		
10.3	04.8	0.419	.0862	-.0443	04.74	-0.031	-.0084	.0091		

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TABLE VIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(e) M = 2.01 to 2.51										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 2.01; R = 2.0×10 <sup>6</sup> /ft										
-03.9	00.0	-0.149	.0209	.0216	-07.15	-0.001	-0.0001	.0002	-0.072	.0249
-01.9	00.0	-0.084	.0134	.0142	-06.22	-0.001	-0.0002	.0002	-0.024	.0087
-00.9	00.0	-0.049	.0114	.0100	-04.27	0.000	-0.0002	.0002	-0.004	.0024
00.0	00.0	-0.016	.0105	.0060	-01.53	0.000	-0.0002	.0002	0.016	-0.0038
01.1	00.0	0.021	.0110	.0018	01.86	0.000	-0.0002	.0002	0.042	-0.0114
02.0	00.0	0.054	.0127	-0.0016	04.24	0.000	-0.0002	.0002	0.063	-0.0178
03.9	00.0	0.121	.0189	-0.0083	06.38	0.000	-0.0002	.0001	0.110	-0.0316
05.9	00.0	0.191	.0302	-0.0147	06.31	0.001	-0.0002	.0001	0.153	-0.0441
07.9	00.0	0.260	.0465	-0.0208	05.58	0.001	-0.0002	.0000	0.200	-0.0579
10.0	00.0	0.323	.0668	-0.0262	04.83	0.002	-0.0002	-0.0001	0.244	-0.0710
-00.2	-02.6	-0.014	.0104	.0045	-01.29	0.016	.0010	-0.0063		
-00.3	02.4	-0.007	.0109	.0040	-00.57	-0.014	-0.0020	.0059		
-00.2	04.9	-0.021	.0110	.0064	-01.53	-0.031	-0.0034	.0126		
02.6	-02.6	0.088	.0149	-0.0062	05.65	0.016	.0017	-0.0055		
02.7	02.4	0.093	.0155	-0.0066	05.81	-0.013	-0.0025	.0050		
02.7	04.9	0.085	.0151	-0.0054	04.80	-0.030	-0.0047	.0109		
05.6	-02.6	0.195	.0299	-0.0164	06.37	0.016	.0020	-0.0043		
05.5	02.4	0.211	.0316	-0.0173	06.60	-0.012	-0.0029	.0033		
05.8	04.9	0.188	.0299	-0.0154	05.86	-0.027	-0.0054	.0083		
09.7	-02.6	0.336	.0678	-0.0298	04.91	0.015	.0024	-0.0013		
09.7	02.3	0.348	.0702	-0.0306	04.92	-0.009	-0.0034	-0.0003		
09.7	04.8	0.313	.0637	-0.0270	04.76	-0.027	-0.0062	.0047		
M = 2.51; R = 2.4×10 <sup>6</sup> /ft										
-04.4	00.0	-0.130	.0203	.0173	-06.40	0.001	.0000	.0000	-0.018	.0172
-02.3	00.0	-0.068	.0131	.0112	-05.17	0.001	-0.0001	.0000	-0.009	.0080
-00.2	00.0	-0.004	.0101	.0041	-00.38	0.001	.0000	.0000	0.001	-0.0012
01.8	00.0	0.062	.0122	-0.0026	05.12	0.002	-0.0001	-0.0001	0.015	-0.0154
03.9	00.0	0.126	.0191	-0.0081	06.59	0.002	-0.0001	-0.0002	0.029	-0.0297
06.0	00.0	0.188	.0305	-0.0132	06.18	0.003	-0.0001	-0.0002	0.046	-0.0466
08.1	00.0	0.252	.0466	-0.0182	05.40	0.004	-0.0001	-0.0003	0.061	-0.0621
10.2	00.0	0.312	.0669	-0.0228	04.66	0.004	-0.0002	-0.0002	0.077	-0.0775
-00.2	-02.0	-0.001	.0103	.0037	-00.09	0.013	.0007	-0.0037	0.011	-0.0108
-00.2	00.0	-0.001	.0102	.0037	-00.09	0.001	.0000	.0001	0.008	-0.0085
-00.2	01.9	-0.002	.0103	.0040	-00.16	-0.011	-0.0009	.0039	0.009	-0.0097
-00.2	03.9	-0.003	.0103	.0045	-00.27	-0.022	-0.0016	.0076	0.011	-0.0120
02.9	-02.0	0.094	.0154	-0.0053	06.06	0.012	.0013	-0.0027	0.042	-0.0433
02.9	00.0	0.095	.0155	-0.0053	06.15	0.001	-0.0001	.0000	0.042	-0.0433
02.9	01.9	0.094	.0156	-0.0051	06.05	-0.010	-0.0016	.0029	0.043	-0.0449
02.9	03.9	0.093	.0155	-0.0048	05.98	-0.021	-0.0029	.0055	0.045	-0.0464
06.0	-02.0	0.188	.0308	-0.0133	06.11	0.013	.0017	-0.0015	0.055	-0.0573
06.0	00.0	0.190	.0310	-0.0134	06.12	0.002	-0.0001	-0.0001	0.055	-0.0573
06.0	01.9	0.190	.0311	-0.0131	06.12	-0.009	-0.0020	.0015	0.056	-0.0581
06.0	04.0	0.188	.0309	-0.0129	06.10	-0.019	-0.0038	.0028	0.058	-0.0596
10.2	-02.0	0.311	.0671	-0.0230	04.64	0.013	.0022	.0003	0.073	-0.0746
10.2	00.0	0.313	.0674	-0.0229	04.64	0.003	-0.0002	-0.0002	0.074	-0.0754
10.2	02.0	0.311	.0672	-0.0225	04.64	-0.007	-0.0026	-0.0006	0.073	-0.0751
10.2	04.0	0.310	.0668	-0.0219	04.64	-0.018	-0.0049	-0.0004	0.075	-0.0766

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TABLE VIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Concluded

(f) M = 3.00 to 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 3.00; R = 2.5×10 <sup>6</sup> /ft										
-04.4	00.0	-0.111	.0181	.0143	-06.10	0.001	.0000	-0.0001	-0.020	.0198
-02.3	00.0	-0.056	.0115	.0093	-04.90	0.001	-0.0001	-0.0001	-0.012	.0113
-00.3	00.0	-0.002	.0089	.0041	-00.25	0.001	-0.0001	-0.0001	-0.003	.0020
01.7	00.0	0.054	.0109	-0.0004	05.00	0.002	.0000	-0.0001	0.010	-0.0102
03.8	00.0	0.109	.0169	-0.0050	06.45	0.002	-0.0001	-0.0003	0.025	-0.0245
05.9	00.0	0.164	.0269	-0.0090	06.09	0.003	-0.0001	-0.0003	0.035	-0.0361
08.0	00.0	0.218	.0407	-0.0125	05.36	0.003	-0.0001	-0.0003	0.052	-0.0516
10.0	00.0	0.270	.0582	-0.0159	04.64	0.004	-0.0002	-0.0003	0.068	-0.0686
-00.3	-02.0	0.000	.0092	.0040	00.03	0.012	.0006	-0.0026	0.004	-0.0042
-00.3	00.0	0.000	.0091	.0040	00.03	0.001	-0.0001	-0.0001	-0.001	0.003
-00.3	02.0	-0.001	.0093	.0042	-00.11	-0.009	-0.0007	.0025	0.004	-0.0042
-00.3	04.0	-0.002	.0094	.0047	-00.19	-0.020	-0.0015	.0051	0.006	-0.0064
02.8	-02.0	0.081	.0140	-0.0025	05.77	0.011	.0008	-0.0015	0.042	-0.0438
02.8	00.0	0.081	.0137	-0.0027	05.93	0.001	-0.0001	.0000	0.041	-0.0430
02.8	01.9	0.081	.0139	-0.0025	05.82	-0.009	-0.0010	.0015	0.042	-0.0444
02.8	04.0	0.080	.0141	-0.0021	05.70	-0.019	-0.0020	.0029	0.044	-0.0469
05.9	-02.0	0.163	.0273	-0.0089	05.99	0.011	.0012	-0.0005	0.054	-0.0559
05.9	00.0	0.164	.0273	-0.0091	06.02	0.002	-0.0001	-0.0001	0.052	-0.0547
05.9	02.0	0.164	.0274	-0.0089	05.98	-0.008	-0.0016	.0003	0.055	-0.0568
05.9	04.0	0.162	.0273	-0.0084	05.95	-0.018	-0.0030	.0006	0.057	-0.0585
10.1	-02.0	0.269	.0586	-0.0161	04.59	0.011	.0018	.0011	0.069	-0.0709
10.1	00.0	0.270	.0587	-0.0165	04.60	0.003	-0.0002	-0.0003	0.069	-0.0706
10.1	02.0	0.270	.0587	-0.0158	04.59	-0.005	-0.0023	-0.0015	0.068	-0.0702
10.1	04.0	0.269	.0587	-0.0153	04.58	-0.015	-0.0043	-0.0021	0.071	-0.0731
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.4	00.0	-0.094	.0157	.0103	-06.00	0.000	.0000	.0002	-0.019	.0182
-02.3	00.0	-0.048	.0102	.0071	-04.70	0.001	.0000	.0002	-0.010	.0098
-00.2	00.0	-0.001	.0080	.0037	-00.15	0.001	.0000	.0001	-0.002	.0020
01.7	00.0	0.047	.0097	.0008	04.82	0.001	.0000	.0002	0.007	-0.0074
03.8	00.0	0.094	.0148	-0.0021	06.32	0.002	-0.0001	.0001	0.019	-0.0200
05.8	00.0	0.142	.0238	-0.0050	05.96	0.002	-0.0001	.0001	0.033	-0.0329
07.9	00.0	0.190	.0359	-0.0074	05.28	0.002	-0.0001	.0001	0.045	-0.0464
10.0	00.0	0.236	.0514	-0.0100	04.58	0.003	-0.0002	.0000	0.061	-0.0606
-00.2	-02.0	0.002	.0081	.0038	00.20	0.012	.0006	-0.0021	0.007	-0.0067
-00.2	00.0	-0.001	.0081	.0035	-00.09	0.000	.0000	.0001	-0.001	-0.0002
-00.2	02.0	0.000	.0081	.0041	00.03	-0.010	-0.0007	.0024	0.004	-0.0044
-00.2	04.0	0.000	.0084	.0044	-00.02	-0.021	-0.0014	.0044	0.006	-0.0063
02.8	-02.0	0.069	.0124	-0.0006	05.62	0.011	.0008	-0.0009	0.042	-0.0447
02.8	00.0	0.070	.0123	-0.0007	05.73	0.001	-0.0001	.0003	0.041	-0.0437
02.8	01.9	0.070	.0124	-0.0003	05.65	-0.010	-0.0010	.0015	0.042	-0.0447
02.8	04.0	0.069	.0125	-0.0003	05.51	-0.020	-0.0019	.0022	0.047	-0.0490
05.9	-02.0	0.141	.0240	-0.0049	05.89	0.011	.0010	.0001	0.053	-0.0556
05.9	00.0	0.143	.0241	-0.0051	05.91	0.002	-0.0001	.0003	0.055	-0.0569
05.9	02.0	0.142	.0241	-0.0049	05.88	-0.008	-0.0012	.0004	0.055	-0.0575
05.9	04.0	0.141	.0240	-0.0047	05.86	-0.018	-0.0024	.0000	0.051	-0.0557
10.0	-02.0	0.235	.0518	-0.0102	04.54	0.010	.0019	.0014	0.067	-0.0694
10.0	00.0	0.236	.0518	-0.0107	04.55	0.003	-0.0002	.0001	0.067	-0.0691
10.0	02.0	0.235	.0518	-0.0101	04.54	-0.005	-0.0024	-0.0011	0.067	-0.0696
10.0	04.0	0.234	.0517	-0.0097	04.53	-0.015	-0.0045	-0.0023	0.070	-0.0720

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TABLE IX.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = -4°

(a) M = 0.25 to 0.95										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.177	.0203	-.0130	-08.69	-0.004	-.0001	.0012		
-01.5	00.0	-0.080	.0119	-.0127	-06.73	-0.003	-.0003	.0011		
-00.5	00.0	-0.036	.0107	-.0134	-03.37	-0.003	-.0002	.0011		
00.5	00.0	0.009	.0094	-.0129	00.94	-0.001	-.0003	.0009		
01.4	00.0	0.050	.0106	-.0128	04.76	-0.002	-.0001	.0010		
02.4	00.0	0.103	.0127	-.0139	08.14	-0.001	-.0001	.0009		
04.3	00.0	0.205	.0227	-.0139	09.00	0.000	-.0004	.0007		
06.4	00.0	0.312	.0404	-.0137	07.73	0.002	-.0005	.0005		
08.4	00.0	0.431	.0674	-.0116	06.39	0.002	-.0005	.0002		
10.5	00.0	0.544	.1023	-.0067	05.31	0.004	-.0006	-.0003		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.196	.0213	-.0091	-09.20	-0.003	-.0003	.0012	-0.220	.0513
-01.6	00.0	-0.090	.0123	-.0104	-07.28	-0.003	-.0004	.0011	-0.145	.0352
-00.6	00.0	-0.040	.0102	-.0115	-03.95	-0.002	-.0003	.0010	-0.107	.0271
00.4	00.0	0.009	.0097	-.0124	00.95	-0.002	-.0003	.0009	-0.065	.0173
01.4	00.0	0.056	.0110	-.0133	05.11	-0.002	-.0004	.0008	-0.035	.0113
02.3	00.0	0.111	.0132	-.0147	08.39	-0.001	-.0004	.0007	-0.006	.0036
04.3	00.0	0.218	.0235	-.0169	09.26	0.000	-.0005	.0004	0.055	-.0101
06.3	00.0	0.337	.0424	-.0185	07.93	0.001	-.0006	.0001	0.126	-.0241
08.3	00.0	0.461	.0711	-.0196	06.49	0.002	-.0008	-.0003	0.208	-.0402
10.3	00.0	0.589	.1091	-.0187	05.40	0.003	-.0010	-.0007	0.301	-.0613
M = 0.85; R = 2.4x10 <sup>6</sup> /ft										
-03.7	00.0	-0.219	.0229	-.0015	-09.54	-0.003	-.0003	.0011	-0.227	.0580
-01.7	00.0	-0.107	.0129	-.0060	-08.26	-0.003	-.0003	.0009	-0.147	.0384
-00.7	00.0	-0.052	.0107	-.0093	-04.82	-0.002	-.0003	.0008	-0.108	.0287
00.3	00.0	0.000	.0094	-.0115	00.00	-0.002	-.0003	.0008	-0.072	.0205
01.3	00.0	0.051	.0107	-.0136	04.72	-0.001	-.0004	.0007	-0.038	.0125
02.2	00.0	0.102	.0127	-.0167	07.99	-0.001	-.0005	.0006	-0.009	.0046
04.2	00.0	0.220	.0237	-.0227	09.28	0.000	-.0005	.0004	0.051	-.0099
06.2	00.0	0.340	.0428	-.0283	07.94	0.001	-.0007	.0002	0.125	-.0260
08.3	00.0	0.479	.0738	-.0360	06.49	0.002	-.0008	-.0002	0.205	-.0426
10.2	00.0	0.613	.1127	-.0446	05.44	0.003	-.0008	-.0006	0.302	-.0680
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.260	.0280	.0191	-09.27	-0.003	-.0004	.0010	-0.243	.0723
-01.9	00.0	-0.128	.0163	.0028	-07.82	-0.002	-.0004	.0009	-0.162	.0483
-00.9	00.0	-0.065	.0121	-.0046	-05.34	-0.002	-.0004	.0008	-0.117	.0351
00.2	00.0	-0.005	.0120	-.0100	-00.41	-0.002	-.0003	.0008	-0.078	.0248
01.1	00.0	0.046	.0129	-.0146	03.54	-0.001	-.0004	.0006	-0.048	.0173
02.0	00.0	0.106	.0162	-.0221	06.52	-0.001	-.0005	.0006	-0.013	.0070
04.0	00.0	0.238	.0260	-.0387	09.13	0.000	-.0006	.0003	0.056	-.0134
06.0	00.0	0.377	.0495	-.0591	07.62	0.001	-.0007	.0001	0.129	-.0299
08.1	00.0	0.519	.0829	-.0749	06.26	0.002	-.0007	-.0003	0.227	-.0601
10.0	00.0	0.640	.1214	-.0854	05.28	0.003	-.0007	-.0006	0.318	-.0883

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TABLE IX. - AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = -4° - Continued

(b) M = 1.00 to 2.01										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 1.00; R = 2.4x10 <sup>6</sup> /ft										
-04.0	00.0	-0.257	.0314	.0223	-08.18	-0.003	-0.0003	.0010	-0.241	.0734
-02.0	00.0	-0.133	.0206	.0066	-06.48	-0.002	-0.0004	.0010	-0.159	.0491
-01.1	00.0	-0.070	.0155	-0.0029	-04.52	-0.002	-0.0003	.0008	-0.123	.0391
00.0	00.0	-0.017	.0165	-0.0089	-01.02	-0.002	-0.0004	.0008	-0.082	.0276
01.0	00.0	0.044	.0168	-0.0163	02.63	-0.001	-0.0004	.0007	-0.048	.0179
01.9	00.0	0.099	.0181	-0.0237	05.47	-0.001	-0.0005	.0006	-0.018	.0095
03.9	00.0	0.223	.0287	-0.0387	07.78	0.000	-0.0005	.0004	0.050	-0.0116
05.9	00.0	0.347	.0484	-0.0527	07.17	0.001	-0.0006	.0000	0.123	-0.0314
07.9	00.0	0.479	.0771	-0.0682	06.21	0.002	-0.0005	-0.0004	0.207	-0.0553
10.0	00.0	0.609	.1156	-0.0833	05.27	0.003	-0.0007	-0.0008	0.294	-0.0806
M = 1.10; R = 2.5x10 <sup>6</sup> /ft										
-03.9	00.0	-0.235	.0315	.0211	-07.47	-0.003	-0.0001	.0009	-0.227	.0693
-01.8	00.0	-0.120	.0197	.0055	-06.11	-0.002	-0.0001	.0009	-0.139	.0442
-00.9	00.0	-0.064	.0172	-0.0029	-03.75	-0.002	-0.0004	.0008	-0.111	.0363
00.1	00.0	-0.012	.0156	-0.0102	-00.78	-0.002	-0.0002	.0008	-0.073	.0258
01.0	00.0	0.046	.0164	-0.0199	02.77	-0.001	-0.0003	.0007	-0.041	.0154
02.0	00.0	0.090	.0185	-0.0232	04.85	-0.001	-0.0003	.0005	-0.008	.0050
04.5	00.0	0.215	.0305	-0.0453	07.07	0.000	-0.0007	.0004	0.019	-0.0004
06.1	00.0	0.359	.0492	-0.0666	07.30	0.001	-0.0006	.0002	0.127	-0.0343
08.0	00.0	0.481	.0775	-0.0732	06.21	0.002	-0.0004	-0.0003	0.208	-0.0566
10.0	00.0	0.597	.1142	-0.0800	05.22	0.003	-0.0005	-0.0007	0.285	-0.0765
M = 1.20; R = 2.5x10 <sup>6</sup> /ft										
-03.8	00.0	-0.221	.0280	.0236	-07.90	-0.003	-0.0003	.0013	-0.210	.0660
-01.9	00.0	-0.110	.0173	.0078	-06.34	-0.003	-0.0004	.0013	-0.136	.0434
-00.8	00.0	-0.055	.0148	-0.0015	-03.74	-0.002	-0.0004	.0012	-0.100	.0334
00.1	00.0	-0.004	.0136	-0.0101	-00.28	-0.002	-0.0005	.0010	-0.070	.0246
01.2	00.0	0.049	.0146	-0.0184	03.40	-0.001	-0.0005	.0008	-0.038	.0146
02.1	00.0	0.100	.0166	-0.0262	06.02	-0.001	-0.0005	.0007	-0.009	.0059
04.1	00.0	0.209	.0264	-0.0427	07.92	0.000	-0.0006	.0004	0.048	-0.0103
06.1	00.0	0.329	.0453	-0.0582	07.26	0.001	-0.0007	.0001	0.115	-0.0292
08.1	00.0	0.446	.0725	-0.0730	06.15	0.002	-0.0006	.0000	0.189	-0.0518
10.1	00.0	0.563	.1068	-0.0886	05.27	0.003	-0.0004	-0.0003	0.266	-0.0756
M = 1.60; R = 2.4x10 <sup>6</sup> /ft										
-03.4	00.0	-0.150	.0211	.0126	-07.12	-0.002	-0.0003	.0009	-0.154	.0490
-01.5	00.0	-0.070	.0143	.0014	-04.85	-0.002	-0.0003	.0009	-0.102	.0330
-00.4	00.0	-0.030	.0125	-0.0045	-02.36	-0.002	-0.0004	.0009	-0.072	.0238
00.5	00.0	0.012	.0120	-0.0101	01.00	-0.001	-0.0004	.0008	-0.046	.0158
01.6	00.0	0.054	.0136	-0.0161	03.97	-0.001	-0.0004	.0007	-0.020	.0078
02.5	00.0	0.092	.0156	-0.0213	05.90	-0.001	-0.0004	.0006	0.002	.0010
04.5	00.0	0.176	.0243	-0.0326	07.25	0.000	-0.0004	.0005	0.053	-0.0139
06.5	00.0	0.262	.0391	-0.0431	06.70	0.000	-0.0004	.0004	0.074	-0.0187
08.6	00.0	0.351	.0610	-0.0530	05.75	0.001	-0.0004	.0001	0.161	-0.0440
10.5	00.0	0.430	.0871	-0.0608	04.94	0.002	-0.0004	-0.0001	0.217	-0.0600
M = 2.01; R = 2.4x10 <sup>6</sup> /ft										
-04.0	00.0	-0.153	.0215	.0120	-07.14	-0.001	-0.0003	.0000	-0.140	.0450
-01.9	00.0	-0.086	.0139	.0044	-06.23	-0.001	-0.0003	.0001	-0.096	.0318
-00.9	00.0	-0.050	.0119	-0.0004	-04.22	-0.001	-0.0003	.0001	-0.070	.0234
00.0	00.0	-0.019	.0107	-0.0040	-01.80	0.000	-0.0004	.0001	-0.048	.0164
01.1	00.0	0.020	.0109	-0.0087	01.78	0.000	-0.0003	.0001	-0.024	.0093
02.1	00.0	0.052	.0124	-0.0127	04.20	0.000	-0.0003	.0000	-0.007	.0045
04.0	00.0	0.118	.0183	-0.0205	06.45	0.000	-0.0003	.0000	0.036	-0.0085
05.9	00.0	0.188	.0291	-0.0274	06.46	0.001	-0.0003	-0.0002	0.080	-0.0215
08.0	00.0	0.255	.0447	-0.0333	05.71	0.002	-0.0003	-0.0003	0.126	-0.0347
09.9	00.0	0.324	.0650	-0.0393	04.98	0.002	-0.0003	-0.0004	0.175	-0.0489

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TABLE IX. - AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>;  $\delta_c = -4^\circ$  - Concluded

(c) M = 2.51 to 3.50											
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{nc}$	
$M = 2.51; R = 2.5 \times 10^6/\text{ft}$											
-04.4	00.0	-0.133	.0221	.0075	-06.02	0.000	.0000	.0001	-0.041	.0408	
-02.3	00.0	-0.072	.0144	.0009	-04.97	0.001	.0000	.0000	-0.028	.0290	
-00.3	00.0	-0.008	.0109	-0.065	-00.76	0.001	.0000	.0000	-0.020	.0206	
01.7	00.0	0.056	.0122	-0.0135	04.62	0.001	.0000	-0.0001	-0.009	.0098	
03.8	00.0	0.121	.0184	-0.0195	06.57	0.002	.0000	-0.0002	0.005	-0.0037	
05.9	00.0	0.184	.0291	-0.0249	06.32	0.003	-0.0001	-0.0003	0.018	-0.0173	
08.0	00.0	0.246	.0445	-0.0296	05.52	0.003	-0.0001	-0.0004	0.032	-0.0308	
10.1	00.0	0.307	.0642	-0.0345	04.78	0.003	-0.0002	-0.0004	0.044	-0.0432	
-00.3	-02.0	-0.005	.0110	-0.0069	-00.48	0.013	.0006	-0.0041			
-00.3	00.0	-0.005	.0108	-0.0067	-00.49	0.001	-0.0001	.0000			
-00.3	02.0	-0.006	.0110	-0.0065	-00.52	-0.012	-0.0007	.0042			
-00.3	03.9	-0.007	.0110	-0.0064	-00.62	-0.023	-0.0013	.0080			
$M = 3.00; R = 2.5 \times 10^6/\text{ft}$											
-04.4	00.0	-0.011	.0200	.0053	-05.73	0.000	-0.0001	.0000	-0.036	.0365	
-02.3	00.0	-0.061	.0130	-0.0002	-04.73	0.001	-0.0001	.0000	-0.025	.0260	
-00.3	00.0	-0.007	.0097	-0.0055	-00.76	0.001	-0.0001	-0.0001	-0.019	.0195	
01.7	00.0	0.048	.0109	-0.0106	04.41	0.002	.0000	-0.0002	-0.009	.0099	
03.8	00.0	0.104	.0165	-0.0152	06.31	0.002	-0.0001	-0.0002	0.002	-0.0012	
05.8	00.0	0.159	.0259	-0.0192	06.14	0.003	-0.0001	-0.0003	0.014	-0.0130	
07.9	00.0	0.213	.0391	-0.0228	05.44	0.003	-0.0001	-0.0004	0.026	-0.0252	
10.0	00.0	0.266	.0563	-0.0269	04.73	0.003	-0.0001	-0.0005	0.035	-0.0343	
-00.3	-02.0	-0.004	.0100	-0.0058	-00.41	0.011	.0006	-0.0028			
-00.3	00.0	-0.005	.0098	-0.0058	-00.55	0.001	-0.0001	-0.0001			
-00.3	02.0	-0.005	.0100	-0.0055	-00.50	-0.010	-0.0007	.0027			
-00.3	04.0	-0.005	.0102	-0.0054	-00.53	-0.021	-0.0012	.0054			
$M = 3.50; R = 2.5 \times 10^6/\text{ft}$											
-04.4	00.0	-0.098	.0176	.0018	-05.53	0.000	.0000	.0002	-0.028	.0287	
-02.3	00.0	-0.051	.0116	-0.0019	-04.42	0.000	.0000	.0002	-0.020	.0207	
-00.3	00.0	-0.006	.0089	-0.0053	-00.65	0.000	.0000	.0002	-0.018	.0183	
01.7	00.0	0.041	.0099	-0.0087	04.18	0.001	.0000	.0001	-0.009	.0094	
03.8	00.0	0.089	.0145	-0.0114	06.09	0.001	.0000	.0001	0.003	-0.0023	
05.8	00.0	0.137	.0229	-0.0143	05.99	0.002	-0.0001	.0001	0.013	-0.0121	
07.9	00.0	0.184	.0345	-0.0171	05.34	0.002	-0.0001	.0000	0.025	-0.0232	
09.9	00.0	0.232	.0498	-0.0198	04.66	0.003	-0.0002	.0000	0.031	-0.0306	
-00.3	-02.0	-0.003	.0091	-0.0055	-00.36	0.011	.0006	-0.0021			
-00.3	00.0	-0.004	.0088	-0.0054	-00.43	0.001	.0000	.0002			
-00.3	02.0	-0.003	.0090	-0.0051	-00.36	-0.010	-0.0006	.0026			
-00.3	04.0	-0.004	.0091	-0.0047	-00.46	-0.021	-0.0012	.0045			

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TABLE X.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>C</sub> = 4°

(a) M = 0.25 to 0.95										
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
-03.5	00.0	-0.176	.0187	.0099	-09.39	-0.003	-.0023	.0012		
-01.5	00.0	-0.078	.0117	.0096	-06.65	-0.002	-.0027	.0012		
-00.5	00.0	-0.029	.0102	.0094	-02.80	-0.002	-.0025	.0012		
00.4	00.0	0.013	.0098	.0107	01.37	-0.001	-.0024	.0010		
01.4	00.0	0.060	.0120	.0118	04.97	0.000	-.0017	.0011		
02.4	00.0	0.110	.0146	.0130	07.49	0.000	-.0019	.0012		
04.4	00.0	0.217	.0265	.0169	08.20	0.002	-.0025	.0011		
06.4	00.0	0.329	.0463	.0205	07.11	0.003	-.0026	.0010		
08.5	00.0	0.446	.0746	.0261	05.98	0.005	-.0029	.0010		
10.5	00.0	0.563	.1122	.0329	05.02	0.005	-.0031	.0010		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.191	.0196	.0147	-09.77	-0.002	-.0004	.0011	-0.014	.0057
-01.6	00.0	-0.087	.0115	.0123	-07.59	-0.002	-.0004	.0010	0.058	-.0138
-00.6	00.0	-0.033	.0103	.0108	-03.19	-0.001	-.0004	.0009	0.085	-.0180
00.4	00.0	0.019	.0104	.0112	01.78	-0.001	-.0005	.0009	0.136	-.0299
01.4	00.0	0.064	.0119	.0120	05.38	-0.001	-.0005	.0008	0.177	-.0398
02.3	00.0	0.114	.0149	.0125	07.67	0.000	-.0006	.0008	0.215	-.0476
04.3	00.0	0.222	.0267	.0149	08.32	0.001	-.0007	.0006	0.301	-.0658
06.3	00.0	0.344	.0474	.0165	07.26	0.002	-.0009	.0005	0.390	-.0840
08.3	00.0	0.470	.0774	.0190	06.08	0.003	-.0010	.0003	0.485	-.1042
10.3	00.0	0.596	.1168	.0226	05.10	0.005	-.0012	.0000	0.590	-.1263
M = 0.85; R = 2.4x10 <sup>6</sup> /ft										
-03.7	00.0	-0.211	.0206	.0220	-10.23	-0.002	-.0004	.0009	-0.016	.0076
-01.7	00.0	-0.102	.0120	.0164	-08.50	-0.002	-.0004	.0009	0.051	-.0112
-00.7	00.0	-0.047	.0103	.0131	-04.54	-0.001	-.0004	.0008	0.087	-.0192
00.3	00.0	0.007	.0100	.0119	00.71	-0.001	-.0003	.0008	0.127	-.0288
01.3	00.0	0.056	.0118	.0121	04.73	0.000	-.0005	.0007	0.169	-.0397
02.2	00.0	0.107	.0146	.0112	07.32	0.000	-.0006	.0006	0.214	-.0509
04.2	00.0	0.226	.0271	.0105	08.32	0.001	-.0007	.0006	0.307	-.0744
06.2	00.0	0.353	.0482	.0081	07.32	0.002	-.0009	.0005	0.404	-.0981
08.3	00.0	0.488	.0806	.0039	06.05	0.003	-.0010	.0004	0.501	-.1230
10.3	00.0	0.619	.1214	-.0018	05.10	0.005	-.0011	.0000	0.598	-.1490
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.250	.0269	.0436	-09.31	-0.002	-.0005	.0009	-0.019	.0111
-01.9	00.0	-0.120	.0151	.0256	-07.95	-0.001	-.0004	.0009	0.054	-.0133
-00.8	00.0	-0.057	.0134	.0174	-04.23	-0.001	-.0005	.0008	0.093	-.0234
00.1	00.0	0.002	.0129	.0134	00.14	-0.001	-.0005	.0007	0.132	-.0349
01.1	00.0	0.055	.0158	.0119	03.49	0.000	-.0006	.0007	0.182	-.0509
02.0	00.0	0.109	.0182	.0087	05.98	0.000	-.0006	.0006	0.228	-.0653
04.0	00.0	0.239	.0293	-.0016	08.15	0.001	-.0007	.0005	0.328	-.0975
06.0	00.0	0.373	.0546	-.0153	06.84	0.002	-.0007	.0005	0.424	-.1288
08.0	00.0	0.511	.0863	-.0284	05.92	0.003	-.0008	.0003	0.518	-.1569
10.1	00.0	0.640	.1293	-.0398	04.95	0.004	-.0010	.0000	0.601	-.1804

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TABLE X.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 4° - Continued

(b) M = 1.00 to 2.01										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 1.00; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.251	.0304	.0467	-08.28	-0.002	-0.0004	.0010	-0.022	.0121
-02.0	00.0	-0.127	.0199	.0303	-06.40	-0.001	-0.0004	.0009	0.050	-0.0128
-01.0	00.0	-0.067	.0170	.0216	-03.94	-0.001	-0.0004	.0009	0.084	-0.0226
00.0	00.0	-0.010	.0164	.0158	-00.60	-0.001	-0.0004	.0008	0.126	-0.0351
01.0	00.0	0.042	.0164	.0096	02.59	0.000	-0.0004	.0007	0.152	-0.0430
01.9	00.0	0.098	.0216	.0069	04.55	0.000	-0.0005	.0006	0.209	-0.0600
04.0	00.0	0.227	.0323	-.0039	07.02	0.001	-0.0007	.0004	0.307	-0.0917
05.9	00.0	0.347	.0532	-.0133	06.52	0.002	-0.0008	.0003	0.396	-0.1206
07.9	00.0	0.474	.0832	-.0253	05.69	0.003	-0.0007	.0000	0.483	-0.1469
10.0	00.0	0.606	.1232	-.0389	04.92	0.005	-0.0008	-.0002	0.568	-0.1710
M = 1.10; R = 2.5x10 <sup>6</sup> /ft										
-03.8	00.0	-0.232	.0290	.0455	-07.99	-0.002	.0000	.0007	-0.010	.0062
-01.9	00.0	-0.122	.0191	.0293	-06.38	-0.001	-0.0001	.0009	0.053	-0.0122
-00.9	00.0	-0.067	.0169	.0216	-03.94	-0.001	-0.0001	.0009	0.089	-0.0240
00.0	00.0	-0.011	.0163	.0149	-00.67	-0.001	-0.0002	.0008	0.126	-0.0345
01.1	00.0	0.039	.0163	.0086	02.38	-0.001	-0.0003	.0006	0.151	-0.0422
02.0	00.0	0.092	.0201	.0040	04.58	-0.001	-0.0006	.0007	0.200	-0.0568
04.1	00.0	0.210	.0318	-.0076	06.61	0.001	-0.0006	.0007	0.292	-0.0868
06.0	00.0	0.358	.0532	-.0338	06.73	0.002	-0.0006	.0004	0.377	-0.1143
08.1	00.0	0.485	.0845	-.0391	05.74	0.002	-0.0005	.0002	0.466	-0.1422
09.1	00.0	0.544	.1022	-.0413	05.32	0.004	-0.0005	-.0001	0.500	-0.1509
M = 1.20; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.218	.0262	.0451	-08.32	-0.002	-0.0004	.0011	-0.013	.0073
-01.8	00.0	-0.108	.0165	.0287	-06.54	-0.001	-0.0004	.0012	0.052	-0.0139
-00.8	00.0	-0.054	.0145	.0200	-03.76	-0.001	-0.0005	.0012	0.086	-0.0239
00.2	00.0	0.000	.0139	.0130	00.01	-0.001	-0.0006	.0010	0.125	-0.0363
01.1	00.0	0.043	.0152	.0080	02.82	-0.001	-0.0007	.0009	0.159	-0.0462
02.1	00.0	0.100	.0179	.0015	05.56	0.000	-0.0007	.0009	0.198	-0.0575
04.1	00.0	0.213	.0290	-.0127	07.34	0.000	-0.0008	.0009	0.269	-0.0796
06.0	00.0	0.329	.0484	-.0259	06.79	0.001	-0.0008	.0008	0.368	-0.1169
08.1	00.0	0.457	.0780	-.0422	05.86	0.002	-0.0006	.0006	0.426	-0.1296
09.1	00.0	0.516	.0957	-.0477	05.39	0.002	-0.0007	.0003	0.467	-0.1430
M = 1.60; R = 2.5x10 <sup>6</sup> /ft										
-03.4	00.0	-0.151	.0201	.0333	-07.54	-0.001	-0.0003	.0008	0.003	.0020
-01.4	00.0	-0.072	.0139	.0222	-05.15	-0.001	-0.0004	.0008	0.055	-0.0160
-00.4	00.0	-0.030	.0127	.0169	-02.33	-0.001	-0.0004	.0008	0.081	-0.0239
00.5	00.0	0.011	.0127	.0123	00.84	-0.001	-0.0004	.0008	0.111	-0.0330
01.5	00.0	0.050	.0143	.0081	03.48	0.000	-0.0004	.0008	0.142	-0.0421
02.5	00.0	0.090	.0170	.0037	05.32	0.000	-0.0004	.0007	0.168	-0.0491
04.5	00.0	0.177	.0266	-.0057	06.65	0.000	-0.0005	.0007	0.224	-0.0651
06.5	00.0	0.262	.0423	-.0149	06.19	0.001	-0.0005	.0006	0.281	-0.0822
08.5	00.0	0.349	.0645	-.0236	05.41	0.002	-0.0005	.0003	0.340	-0.0992
10.5	00.0	0.432	.0924	-.0321	04.67	0.003	-0.0005	.0000	0.388	-0.1129
M = 2.01; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.148	.0204	.0312	-07.26	0.000	-0.0003	.0001	0.002	.0022
-01.9	00.0	-0.083	.0135	.0234	-06.14	0.000	-0.0004	.0001	0.045	-0.0111
-01.0	00.0	-0.050	.0119	.0197	-04.18	0.000	-0.0004	.0002	0.066	-0.0171
00.0	00.0	-0.017	.0111	.0164	-01.51	0.001	-0.0004	.0001	0.092	-0.0255
01.0	00.0	0.020	.0118	.0130	01.69	0.001	-0.0004	.0001	0.117	-0.0327
02.0	00.0	0.053	.0135	.0097	03.93	0.001	-0.0004	.0001	0.138	-0.0388
04.0	00.0	0.122	.0204	.0030	06.00	0.001	-0.0004	.0000	0.183	-0.0520
05.9	00.0	0.191	.0318	-.0032	06.00	0.002	-0.0004	.0000	0.233	-0.0676
08.0	00.0	0.259	.0485	-.0092	05.35	0.002	-0.0004	-.0002	0.279	-0.0818
10.0	00.0	0.327	.0698	-.0153	04.68	0.002	-0.0003	-.0004	0.321	-0.0935

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TABLE X.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 4° - Concluded

(c) M = 2.51 to 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 2.51; R = 2.4x10 <sup>6</sup> /ft										
-04.4	00.0	-0.126	.0201	.0267	-06.27	0.000	.0000	.0000		
-02.3	00.0	-0.065	.0132	.0205	-04.94	0.001	-.0001	.0001		
-00.2	00.0	0.000	.0108	.0134	00.03	0.001	.0000	-.0001		
01.8	00.0	0.066	.0134	.0075	04.91	0.002	-.0001	-.0001		
03.9	00.0	0.130	.0206	.0023	06.34	0.003	-.0001	-.0002		
06.0	00.0	0.194	.0325	-.0028	05.96	0.003	-.0001	-.0002		
08.1	00.0	0.256	.0487	-.0079	05.24	0.003	-.0001	-.0002		
10.2	00.0	0.316	.0698	-.0125	04.53	0.003	-.0002	-.0004		
-00.2	-02.0	0.003	.0111	.0133	00.30	0.013	.0009	-.0036		
-00.2	00.0	0.003	.0109	.0132	00.27	0.001	-.0001	.0000		
-00.2	01.9	0.002	.0110	.0135	00.20	-0.010	-.0010	.0037		
-00.2	03.9	0.001	.0111	.0142	00.07	-0.021	-.0019	.0071		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.107	.0179	.0230	-05.98	0.001	.0000	-.0002		
-02.3	00.0	-0.052	.0116	.0178	-04.53	0.001	.0000	-.0001		
-00.2	00.0	0.003	.0097	.0129	00.29	0.002	.0000	-.0002		
01.8	00.0	0.059	.0120	.0085	04.91	0.003	-.0001	-.0002		
03.8	00.0	0.114	.0185	.0045	06.20	0.003	-.0001	-.0003		
05.9	00.0	0.168	.0286	.0006	05.88	0.003	-.0001	-.0003		
08.0	00.0	0.222	.0430	-.0032	05.18	0.004	-.0001	-.0003		
10.1	00.0	0.275	.0609	-.0064	04.51	0.004	-.0002	-.0005		
-00.2	-02.0	0.005	.0099	.0128	00.49	0.012	.0007	-.0025		
-00.2	00.0	0.005	.0097	.0128	00.55	0.002	-.0001	-.0002		
-00.2	02.0	0.004	.0099	.0130	00.41	-0.009	-.0008	.0022		
-00.2	04.0	0.002	.0101	.0137	00.24	-0.020	-.0016	.0046		
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.090	.0158	.0186	-05.68	0.000	.0000	.0000		
-02.3	00.0	-0.044	.0105	.0152	-04.15	0.000	.0000	.0001		
-00.2	00.0	0.002	.0088	.0118	00.24	0.001	.0000	.0001		
01.7	00.0	0.050	.0107	.0091	04.67	0.002	.0000	.0001		
03.8	00.0	0.098	.0164	.0064	05.99	0.002	-.0001	.0001		
05.9	00.0	0.147	.0256	.0038	05.72	0.002	-.0001	.0000		
07.9	00.0	0.193	.0379	.0013	05.09	0.003	-.0002	-.0002		
10.0	00.0	0.240	.0539	-.0007	04.45	0.004	-.0003	-.0002		
-00.2	-02.0	0.005	.0090	.0119	00.61	0.012	.0007	-.0019		
-00.2	00.0	0.005	.0088	.0117	00.62	0.001	.0000	.0001		
-00.2	02.0	0.005	.0090	.0121	00.55	-0.010	-.0007	.0022		
-00.2	04.0	0.004	.0090	.0126	00.40	-0.020	-.0015	.0039		

TABLE XI.-- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 8°

(a) M = 0.25 to 0.85										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.175	.0193	.0212	-09.08	-0.003	-.0007	.0014		
-01.5	00.0	-0.076	.0128	.0226	-05.97	-0.003	-.0006	.0013		
-00.5	00.0	-0.027	.0120	.0230	-02.22	-0.002	-.0006	.0012		
00.5	00.0	0.017	.0121	.0236	01.44	-0.001	-.0006	.0011		
01.4	00.0	0.058	.0139	.0259	04.22	-0.001	-.0006	.0010		
02.4	00.0	0.112	.0176	.0290	06.40	0.000	-.0005	.0011		
04.4	00.0	0.213	.0295	.0346	07.22	0.002	-.0006	.0010		
06.4	00.0	0.332	.0512	.0403	06.49	0.004	-.0009	.0010		
08.5	00.0	0.450	.0810	.0466	05.56	0.006	-.0010	.0008		
10.5	00.0	0.564	.1185	.0539	04.76	0.005	-.0010	.0008		
00.3	04.9	0.008	.0120	.0246	00.52	-0.041	-.0063	.0192		
03.5	04.9	0.169	.0239	.0336	06.20	-0.039	-.0100	.0200		
06.4	04.9	0.326	.0503	.0406	06.16	-0.033	-.0126	.0194		
10.5	04.8	0.572	.1190	.0553	04.76	-0.019	-.0157	.0143		
M = 0.65; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.188	.0202	.0255	-09.30	-0.002	-.0004	.0012	0.067	-.0120
-01.6	00.0	-0.082	.0131	.0253	-06.23	-0.001	-.0005	.0012	0.154	-.0331
-00.6	00.0	-0.030	.0121	.0245	-02.45	-0.001	-.0005	.0011	0.191	-.0409
00.4	00.0	0.018	.0124	.0239	01.45	0.000	-.0005	.0010	0.237	-.0507
01.3	00.0	0.065	.0144	.0255	04.50	0.000	-.0005	.0009	0.234	-.0624
02.3	00.0	0.119	.0183	.0276	06.54	0.000	-.0006	.0009	0.328	-.0724
04.2	00.0	0.226	.0306	.0317	07.38	0.002	-.0007	.0008	0.410	-.0883
06.2	00.0	0.343	.0517	.0347	06.65	0.003	-.0010	.0007	0.510	-.1094
08.3	00.0	0.467	.0821	.0384	05.69	0.004	-.0013	.0006	0.606	-.1299
10.3	00.0	0.590	.1209	.0418	04.88	0.005	-.0014	.0004	0.697	-.1467
00.3	04.9	0.006	.0115	.0266	00.37	-0.041	-.0060	.0190		
03.3	04.9	0.164	.0224	.0326	06.40	-0.038	-.0096	.0197		
06.4	04.9	0.338	.0512	.0373	06.28	-0.032	-.0126	.0199		
10.3	04.8	0.576	.1179	.0430	04.83	-0.021	-.0167	.0148		
M = 0.85; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.219	.0223	.0352	-09.83	-0.002	-.0005	.0010	0.068	-.0118
-01.7	00.0	-0.106	.0136	.0305	-07.82	-0.001	-.0005	.0010	0.148	-.0339
-00.7	00.0	-0.048	.0124	.0281	-03.85	-0.001	-.0005	.0009	0.195	-.0465
00.3	00.0	0.007	.0121	.0261	00.60	0.000	-.0004	.0009	0.246	-.0591
01.3	00.0	0.054	.0143	.0260	03.75	0.000	-.0005	.0008	0.286	-.0690
02.3	00.0	0.111	.0180	.0268	06.14	0.001	-.0006	.0008	0.337	-.0830
04.3	00.0	0.226	.0312	.0280	07.26	0.002	-.0007	.0007	0.432	-.1066
06.2	00.0	0.355	.0535	.0267	06.65	0.003	-.0010	.0006	0.532	-.1334
08.3	00.0	0.488	.0866	.0239	05.63	0.004	-.0012	.0006	0.624	-.1571
10.3	00.0	0.618	.1274	.0188	04.85	0.005	-.0014	.0006	0.709	-.1783
00.0	04.9	-0.007	.0117	.0293	-00.47	-0.042	-.0061	.0199		
03.1	04.9	0.159	.0218	.0315	06.31	-0.040	-.0098	.0202		
06.1	04.9	0.342	.0509	.0326	06.38	-0.035	-.0136	.0216		
10.2	04.8	0.606	.1224	.0197	04.89	-0.023	-.0177	.0169		

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TABLE XI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 8° - Continued

(b) M = 0.95 to 1.10										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 0.95; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.251	.0268	.0546	-09.37	-0.001	-.0004	.0010	0.038	-.0125
-01.9	00.0	-0.120	.0169	.0397	-07.10	-0.001	-.0005	.0009	0.158	-.0404
-00.9	00.0	-0.056	.0151	.0326	-03.68	-0.001	-.0005	.0009	0.209	-.0577
00.1	00.0	0.003	.0144	.0273	00.20	0.000	-.0004	.0009	0.263	-.0779
01.0	00.0	0.055	.0175	.0240	03.15	0.000	-.0006	.0008	0.306	-.0921
02.0	00.0	0.116	.0199	.0221	05.86	0.000	-.0006	.0007	0.358	-.1085
04.0	00.0	0.248	.0354	.0132	07.01	0.001	-.0007	.0007	0.455	-.1405
06.0	00.0	0.381	.0586	.0011	06.50	0.002	-.0008	.0007	0.544	-.1682
08.0	00.0	0.510	.0915	-.0087	05.58	0.003	-.0010	.0006	0.626	-.1924
10.0	00.0	0.639	.1340	-.0205	04.77	0.005	-.0012	.0001	0.704	-.2149
-00.1	04.9	-0.013	.0161	.0344	-00.67	-0.045	-.0064	.0221		
02.8	04.9	0.167	.0251	.0243	05.83	-0.043	-.0099	.0220		
05.8	04.9	0.369	.0564	.0089	06.21	-0.038	-.0140	.0234		
09.9	04.8	0.639	.1325	-.0180	04.76	-0.026	-.0178	.0181		
M = 1.00; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.249	.0314	.0587	-07.95	-0.002	-.0003	.0012	0.066	-.0145
-02.0	00.0	-0.127	.0215	.0443	-05.92	-0.001	-.0005	.0011	0.147	-.0396
-00.9	00.0	-0.065	.0179	.0359	-03.60	0.000	-.0005	.0009	0.198	-.0565
00.0	00.0	-0.005	.0192	.0290	-00.27	0.000	-.0004	.0009	0.243	-.0715
01.0	00.0	0.051	.0199	.0229	02.57	0.000	-.0006	.0008	0.290	-.0869
01.9	00.0	0.102	.0233	.0204	04.38	0.000	-.0006	.0008	0.331	-.1005
03.9	00.0	0.230	.0366	.0118	06.28	0.001	-.0007	.0006	0.424	-.1311
06.0	00.0	0.357	.0578	.0032	06.18	0.003	-.0008	.0005	0.511	-.1587
08.0	00.0	0.483	.0915	-.0084	05.27	0.004	-.0009	.0003	0.592	-.1827
10.0	00.0	0.607	.1280	-.0212	04.74	0.005	-.0010	-.0001	0.668	-.2040
-00.2	04.9	-0.021	.0179	.0343	-00.95	-0.044	-.0064	.0217		
02.7	04.9	0.155	.0272	.0216	05.02	-0.044	-.0100	.0220		
05.8	04.9	0.345	.0581	.0082	05.63	-0.039	-.0141	.0235		
09.8	04.8	0.601	.1260	-.0184	04.71	-0.026	-.0166	.0181		
M = 1.10; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.237	.0307	.0578	-07.72	-0.001	-.0003	.0008	0.067	-.0155
-01.9	00.0	-0.127	.0212	.0456	-05.99	-0.001	-.0004	.0010	0.151	-.0456
-00.9	00.0	-0.071	.0187	.0364	-03.78	-0.001	-.0005	.0009	0.188	-.0533
00.1	00.0	-0.011	.0184	.0269	-00.58	-0.001	-.0006	.0011	0.234	-.0721
01.0	00.0	0.040	.0198	.0218	02.01	-0.001	-.0006	.0010	0.267	-.0793
02.1	00.0	0.091	.0230	.0191	03.96	0.000	-.0006	.0009	0.314	-.0942
04.1	00.0	0.210	.0356	.0086	05.91	0.001	-.0006	.0008	0.403	-.1236
06.0	00.0	0.366	.0581	-.0196	06.31	0.002	-.0006	.0007	0.483	-.1493
08.1	00.0	0.492	.0899	-.0256	05.47	0.003	-.0006	.0006	0.562	-.1746
10.1	00.0	0.613	.1294	-.0305	04.74	0.005	-.0009	.0000	0.631	-.1936
00.0	04.9	-0.022	.0173	.0314	-01.04	-0.043	-.0056	.0221		
02.9	04.9	0.149	.0263	.0140	05.01	-0.042	-.0090	.0219		
05.9	04.9	0.349	.0547	-.0131	06.06	-0.036	-.0133	.0219		
09.9	04.8	0.597	.1247	-.0245	04.72	-0.024	-.0169	.0161		

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TABLE XI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 8° - Continued

(c) M = 1.20 to 2.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 1.20; R = 2.0x10 <sup>6</sup> /ft										
-03.8	00.0	-0.219	.0274	.0580	-08.00	-0.002	-.0003	.0013	0.072	-.0187
-01.9	00.0	-0.113	.0182	.0428	-06.18	-0.001	-.0004	.0013	0.145	-.0422
-00.8	00.0	-0.060	.0164	.0340	-03.68	-0.001	-.0004	.0012	0.183	-.0539
00.1	00.0	-0.006	.0162	.0258	-00.40	-0.001	-.0006	.0012	0.221	-.0658
01.1	00.0	0.047	.0177	.0188	02.65	-0.001	-.0006	.0011	0.263	-.0791
02.1	00.0	0.101	.0209	.0135	04.85	0.000	-.0006	.0010	0.294	-.0885
04.1	00.0	0.216	.0325	.0001	06.65	0.000	-.0006	.0011	0.368	-.1121
06.0	00.0	0.342	.0537	-.0162	06.38	0.001	-.0006	.0011	0.441	-.1358
08.1	00.0	0.464	.0838	-.0271	05.54	0.003	-.0008	.0009	0.519	-.1621
10.1	00.0	0.580	.1217	-.0364	04.76	0.004	-.0009	.0004	0.586	-.1823
00.0	04.9	-0.010	.0153	.0295	-00.53	-0.045	-.0057	.0225		
03.0	04.9	0.155	.0245	.0091	05.52	-0.044	-.0089	.0223		
06.0	04.9	0.340	.0529	-.0117	06.06	-0.039	-.0129	.0222		
10.0	04.8	0.563	.1183	-.0279	04.69	-0.026	-.0161	.0152		
M = 1.60; R = 2.0x10 <sup>6</sup> /ft										
-03.4	00.0	-0.156	.0213	.0458	-07.31	-0.002	-.0003	.0009	0.073	-.0184
-01.4	00.0	-0.074	.0154	.0350	-04.79	-0.002	-.0004	.0010	0.131	-.0374
-00.4	00.0	-0.037	.0146	.0302	-02.53	-0.001	-.0004	.0010	0.160	-.0464
00.5	00.0	0.005	.0145	.0249	00.32	-0.001	-.0004	.0009	0.189	-.0552
01.5	00.0	0.045	.0162	.0212	02.79	-0.001	-.0005	.0009	0.219	-.0644
02.5	00.0	0.088	.0191	.0174	04.59	-0.001	-.0005	.0009	0.243	-.0714
04.5	00.0	0.175	.0290	.0077	06.03	0.000	-.0005	.0008	0.298	-.0875
06.5	00.0	0.261	.0451	-.0020	05.79	0.000	-.0006	.0008	0.350	-.1024
08.5	00.0	0.346	.0676	-.0118	05.12	0.001	-.0006	.0007	0.404	-.1185
10.5	00.0	0.433	.0963	-.0208	04.50	0.003	-.0006	.0003	0.453	-.1332
00.3	04.9	0.004	.0142	.0267	00.21	-0.038	-.0068	.0179		
03.3	04.9	0.131	.0229	.0144	05.06	-0.036	-.0088	.0177		
06.3	04.9	0.262	.0449	.0007	05.51	-0.033	-.0101	.0169		
10.2	04.8	0.423	.0923	-.0169	04.50	-0.024	-.0111	.0113		
M = 2.00; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.147	.0212	.0418	-06.96	-0.001	-.0002	.0002	0.060	-.0136
-02.0	00.0	-0.083	.0150	.0345	-05.56	0.000	-.0003	.0002	0.107	-.0280
-00.9	00.0	-0.048	.0132	.0306	-03.65	0.000	-.0003	.0002	0.131	-.0352
00.0	00.0	-0.016	.0127	.0269	-01.26	0.000	-.0003	.0002	0.157	-.0436
01.1	00.0	0.021	.0138	.0232	01.54	0.000	-.0004	.0002	0.181	-.0509
02.0	00.0	0.053	.0154	.0205	03.45	0.000	-.0004	.0002	0.202	-.0569
04.0	00.0	0.125	.0227	.0136	05.50	0.001	-.0004	.0002	0.246	-.0711
05.9	00.0	0.195	.0348	.0071	05.61	0.001	-.0004	.0002	0.292	-.0853
08.0	00.0	0.264	.0519	.0010	05.08	0.002	-.0004	.0000	0.337	-.0985
10.0	00.0	0.320	.0715	-.0073	04.48	0.002	-.0004	.0000	0.376	-.1095
-00.3	04.9	-0.021	.0127	.0278	-01.40	-0.030	-.0049	.0120		
02.7	04.9	0.087	.0178	.0172	04.32	-0.028	-.0065	.0106		
05.6	04.9	0.185	.0325	.0081	05.36	-0.025	-.0073	.0093		
09.6	04.8	0.314	.0683	-.0048	04.50	-0.021	-.0080	.0052		

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TABLE XI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 8° - Continued

(d) M = 2.51 to 3.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h</sub> <sub>c</sub>
M = 2.51; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.122	.0206	.0369	-05.90	0.001	.0000	.0000	0.011	-0.0115
-02.2	00.0	-0.060	.0145	.0305	-04.14	0.001	-0.0001	.0000	0.020	-0.0204
-00.2	00.0	0.005	.0127	.0234	00.36	0.002	-0.0001	-0.0001	0.031	-0.0315
01.9	00.0	0.070	.0157	.0175	04.46	0.002	.0000	-0.0002	0.044	-0.0438
03.9	00.0	0.134	.0233	.0123	05.76	0.003	-0.0001	-0.0003	0.057	-0.0563
06.0	00.0	0.197	.0356	.0073	05.54	0.003	-0.0001	-0.0003	0.070	-0.0699
08.1	00.0	0.259	.0523	.0019	04.96	0.003	-0.0001	-0.0003	0.086	-0.0860
10.3	00.0	0.320	.0736	-0.0028	04.34	0.004	-0.0002	-0.0003	0.102	-0.1020
-00.2	-02.0	0.004	.0127	.0237	00.30	0.013	.0011	-0.0036		
-00.2	00.0	0.005	.0127	.0234	00.36	0.001	.0000	-0.0001		
-00.2	02.0	0.004	.0127	.0241	00.28	-0.010	-0.0013	.0035		
-00.2	03.9	0.001	.0127	.0251	00.10	-0.021	-0.0024	.0069		
02.9	-02.0	0.100	.0193	.0148	05.20	0.012	.0021	-0.0028		
02.9	00.0	0.102	.0194	.0146	05.27	0.001	.0000	.0000		
02.9	01.9	0.102	.0195	.0149	05.24	-0.009	-0.0021	.0030		
02.9	03.9	0.100	.0194	.0157	05.18	-0.019	-0.0040	.0054		
06.1	-02.0	0.196	.0361	.0073	05.44	0.012	.0026	-0.0022		
06.1	00.0	0.199	.0364	.0068	05.47	0.002	.0001	-0.0002		
06.1	01.9	0.198	.0364	.0073	05.45	-0.008	-0.0026	.0021		
06.1	04.0	0.197	.0361	.0080	05.45	-0.017	-0.0050	.0037		
10.3	-02.0	0.319	.0742	-0.0033	04.31	0.011	.0029	-0.0008		
10.3	00.0	0.320	.0743	-0.0036	04.31	0.003	.0000	-0.0004		
10.3	02.0	0.319	.0740	-0.0029	04.30	-0.006	-0.0030	.0002		
10.3	04.0	0.318	.0740	-0.0015	04.30	-0.014	-0.0059	.0010		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.102	.0186	.0322	-05.46	0.001	.0000	-0.0002	0.018	-0.0179
-02.3	00.0	-0.047	.0130	.0272	-03.63	0.002	.0000	-0.0002	0.026	-0.0256
-00.2	00.0	0.008	.0115	.0223	00.69	0.002	.0000	-0.0002	0.035	-0.0350
01.8	00.0	0.063	.0142	.0177	04.44	0.002	.0000	-0.0003	0.046	-0.0461
03.9	00.0	0.119	.0211	.0139	05.63	0.003	-0.0001	-0.0003	0.057	-0.0572
05.9	00.0	0.173	.0319	.0103	05.43	0.003	-0.0001	-0.0003	0.070	-0.0694
08.0	00.0	0.227	.0463	.0069	04.89	0.004	-0.0002	-0.0003	0.081	-0.0811
10.1	00.0	0.277	.0646	.0030	04.30	0.003	-0.0002	-0.0004	0.093	-0.0930
-00.2	-02.0	0.007	.0117	.0226	00.64	0.012	.0008	-0.0026		
-00.2	00.0	0.008	.0115	.0222	00.69	0.002	-0.0001	-0.0001		
-00.2	02.0	0.007	.0116	.0228	00.57	-0.009	-0.0009	.0022		
-00.2	04.0	0.004	.0119	.0238	00.35	-0.019	-0.0018	.0045		
02.9	-02.0	0.089	.0175	.0159	05.10	0.011	.0014	-0.0016		
02.9	00.0	0.091	.0176	.0155	05.17	0.002	.0001	-0.0001		
02.9	01.9	0.090	.0177	.0159	05.06	-0.008	-0.0014	.0015		
02.9	04.0	0.088	.0177	.0167	04.99	-0.018	-0.0027	.0026		
06.0	-02.0	0.172	.0324	.0105	05.30	0.010	.0021	-0.0007		
06.0	00.0	0.173	.0324	.0101	05.34	0.003	.0001	-0.0002		
06.0	02.0	0.173	.0325	.0103	05.32	-0.007	-0.0021	.0006		
06.0	04.0	0.171	.0323	.0109	05.30	-0.016	-0.0039	.0008		
10.1	-02.0	0.277	.0650	.0027	04.26	0.011	.0025	.0001		
10.1	00.0	0.278	.0650	.0027	04.27	0.003	.0000	-0.0007		
10.1	02.0	0.277	.0652	.0028	04.25	-0.005	-0.0025	-0.0007		
10.1	04.0	0.276	.0651	.0044	04.24	-0.014	-0.0051	-0.0010		

TABLE XI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 8° - Concluded

(e) M = 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.084	.0162	.0270	-05.22	0.001	.0000	.0001	0.015	-.0153
02.2	00.0	-0.038	.0116	.0239	-03.30	0.001	.0000	.0001	0.023	-.0229
-00.2	00.0	0.009	.0104	.0206	00.87	0.001	.0000	.0002	0.029	-.0302
01.8	00.0	0.056	.0128	.0178	04.41	0.002	-.0001	.0001	0.043	-.0433
03.8	00.0	0.104	.0189	.0155	05.52	0.002	-.0001	.0001	0.054	-.0541
05.9	00.0	0.152	.0284	.0132	05.34	0.002	-.0001	.0001	0.064	-.0645
08.0	00.0	0.199	.0413	.0110	04.81	0.003	-.0002	.0001	0.075	-.0749
10.0	00.0	0.244	.0574	.0089	04.25	0.004	-.0003	.0000	0.087	-.0871
A 6 0 0	-00.2	-02.0	0.008	.0105	.0213	00.73	0.012	.0007	-.0018	
	-00.2	00.0	0.009	.0104	.0206	00.86	0.002	.0000	.0002	
	-00.2	02.0	0.008	.0103	.0213	00.74	-0.009	-.0008	.0021	
	-00.2	03.9	0.007	.0105	.0216	00.64	-0.020	-.0016	.0038	
	02.8	-02.0	0.077	.0158	.0164	04.90	0.011	.0012	-.0009	
	02.8	00.0	0.079	.0157	.0162	05.01	0.002	.0001	.0003	
	02.8	01.9	0.079	.0159	.0165	04.92	-0.009	-.0010	.0013	
	02.8	04.0	0.077	.0158	.0167	04.86	-0.018	-.0021	.0019	
	05.9	-02.0	0.149	.0286	.0127	05.20	0.011	.0015	.0000	
	05.9	00.0	0.151	.0289	.0125	05.23	0.002	.0000	.0001	
	05.9	02.0	0.150	.0289	.0127	05.21	-0.008	-.0015	.0005	
	05.9	04.0	0.147	.0282	.0131	05.21	-0.017	-.0029	-.0001	
	10.1	-02.0	0.242	.0576	.0085	04.20	0.010	.0023	.0007	
	10.1	00.0	0.243	.0577	.0081	04.21	0.003	-.0001	.0001	
	10.1	02.0	0.242	.0576	.0085	04.20	-0.006	-.0025	-.0006	
	10.0	04.0	0.241	.0575	.0092	04.19	-0.014	-.0048	-.0016	

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TABLE XIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 12°

(a) M = 0.25 to 0.95										
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
-03.5	00.0	-0.169	.0208	.0358	-08.12	-0.003	-0.0004	.0015		
-01.5	00.0	-0.073	.0156	.0381	-04.70	-0.002	-0.0005	.0012		
-00.5	00.0	-0.027	.0145	.0388	-01.87	-0.001	-0.0005	.0014		
00.4	00.0	0.018	.0156	.0394	01.15	-0.001	-0.0005	.0012		
01.4	00.0	0.060	.0180	.0403	03.35	0.000	-0.0005	.0012		
02.5	00.0	0.109	.0211	.0418	05.17	0.001	-0.0003	.0011		
04.4	00.0	0.213	.0344	.0497	06.20	0.002	-0.0006	.0010		
06.3	00.0	0.329	.0563	.0578	05.84	0.003	-0.0009	.0013		
08.5	00.0	0.456	.0883	.0659	05.16	0.006	-0.0012	.0013		
10.5	00.0	0.567	.1251	.0707	04.53	0.006	-0.0015	.0012		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.183	.0219	.0402	-08.32	-0.003	-0.0003	.0013	0.179	-0.379
-01.6	00.0	-0.083	.0161	.0410	-05.19	-0.002	-0.0003	.0012	0.264	-0.057
-00.6	00.0	-0.030	.0154	.0404	-01.95	-0.001	-0.0004	.0012	0.316	-0.0693
00.3	00.0	0.018	.0160	.0404	01.12	-0.001	-0.0005	.0011	0.360	-0.0792
01.3	00.0	0.064	.0180	.0392	03.56	-0.001	-0.0004	.0010	0.404	-0.0873
02.3	00.0	0.114	.0215	.0400	05.30	0.000	-0.0005	.0009	0.451	-0.0988
04.3	00.0	0.226	.0355	.0466	06.36	0.001	-0.0006	.0008	0.536	-0.1149
06.3	00.0	0.344	.0576	.0513	05.97	0.002	-0.0009	.0008	0.634	-0.1356
08.3	00.0	0.466	.0881	.0553	05.28	0.003	-0.0012	.0008	0.719	-0.1518
10.3	00.0	0.593	.1288	.0588	04.60	0.005	-0.0015	.0006	0.814	-0.1721
M = 0.85; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.215	.0242	.0499	-08.90	-0.003	-0.0004	.0012	0.182	-0.0420
-02.7	00.0	-0.102	.0188	.0466	-05.40	-0.001	-0.0004	.0010	0.269	-0.0640
-01.7	00.0	-0.049	.0168	.0445	-02.91	-0.001	-0.0004	.0011	0.316	-0.0766
-00.7	00.0	0.003	.0163	.0427	00.21	-0.001	-0.0004	.0010	0.365	-0.0893
00.3	00.0	0.058	.0178	.0399	03.28	0.000	-0.0005	.0009	0.415	-0.1018
02.3	00.0	0.115	.0223	.0393	05.15	0.000	-0.0005	.0009	0.469	-0.1170
04.2	00.0	0.223	.0353	.0424	06.33	0.001	-0.0006	.0008	0.559	-0.1406
06.2	00.0	0.347	.0582	.0441	05.96	0.002	-0.0009	.0007	0.651	-0.1653
08.3	00.0	0.482	.0919	.0426	05.24	0.003	-0.0012	.0008	0.742	-0.1894
10.3	00.0	0.615	.1342	.0356	04.59	0.005	-0.0013	.0004	0.811	-0.2074
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.247	.0286	.0701	-08.65	-0.002	-0.0004	.0011	0.194	-0.0502
-01.8	00.0	-0.115	.0202	.0568	-05.67	-0.001	-0.0004	.0010	0.296	-0.0872
-00.8	00.0	-0.052	.0181	.0495	-02.85	-0.001	-0.0004	.0010	0.348	-0.1044
00.0	00.0	0.002	.0183	.0451	00.13	0.000	-0.0004	.0009	0.391	-0.1188
01.1	00.0	0.060	.0214	.0387	02.80	0.000	-0.0005	.0008	0.436	-0.1343
02.0	00.0	0.123	.0242	.0300	05.07	0.000	-0.0004	.0008	0.491	-0.1517
04.0	00.0	0.245	.0390	.0258	06.27	0.001	-0.0007	.0006	0.569	-0.1771
06.1	00.0	0.380	.0638	.0162	05.96	0.002	-0.0008	.0006	0.653	-0.2035
08.0	00.0	0.509	.0978	.0070	05.20	0.004	-0.0009	.0005	0.729	-0.2257
10.1	00.0	0.635	.1404	-.0033	04.53	0.005	-0.0012	.0001	0.805	-0.2484

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TABLE XII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 12° - Continued

(b) M = 1.00 to 2.01										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 1.00; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.251	.0342	.0750	-07.34	-0.002	-0.0004	.0013	0.185	-0.0510
-02.0	00.0	-0.125	.0238	.0600	-05.25	-0.001	-0.0004	.0011	0.276	-0.0815
-01.0	00.0	-0.063	.0225	.0528	-02.79	-0.001	-0.0004	.0010	0.320	-0.0966
00.0	00.0	-0.005	.0219	.0459	-00.22	-0.001	-0.0004	.0009	0.365	-0.1117
00.9	00.0	0.050	.0238	.0377	02.11	0.000	-0.0005	.0009	0.414	-0.1280
01.9	00.0	0.101	.0272	.0307	03.72	0.000	-0.0005	.0008	0.453	-0.1413
03.9	00.0	0.229	.0406	.0240	05.63	0.001	-0.0006	.0006	0.541	-0.1695
06.2	00.0	0.391	.0723	.0187	05.40	0.002	-0.0008	.0005	0.686	-0.2141
08.0	00.0	0.481	.0956	.0066	05.03	0.003	-0.0008	.0003	0.691	-0.2140
09.9	00.0	0.604	.1352	-0.0057	04.47	0.005	-0.0010	-0.0001	0.762	-0.2356
M = 1.10; R = 2.5x10 <sup>6</sup> /ft										
-03.9	00.0	-0.243	.0330	.0743	-07.36	-0.002	-0.0001	.0008	0.171	-0.0474
-01.9	00.0	-0.130	.0236	.0599	-05.51	-0.001	-0.0003	.0009	0.256	-0.0749
-00.9	00.0	-0.073	.0220	.0520	-03.33	-0.002	-0.0004	.0011	0.298	-0.0893
00.1	00.0	-0.018	.0221	.0443	-00.80	-0.001	-0.0004	.0011	0.345	-0.1050
01.0	00.0	0.028	.0230	.0406	01.21	-0.001	-0.0006	.0011	0.387	-0.1201
02.0	00.0	0.087	.0264	.0278	03.29	-0.001	-0.0004	.0012	0.428	-0.1329
04.0	00.0	0.224	.0395	.0126	05.67	0.001	-0.0005	.0005	0.510	-0.1607
06.0	00.0	0.352	.0614	-0.0049	05.72	0.002	-0.0007	.0003	0.581	-0.1814
08.0	00.0	0.496	.0955	-0.0112	05.19	0.003	-0.0006	.0005	0.654	-0.2032
10.1	00.0	0.609	.1345	-0.0155	04.53	0.005	-0.0009	.0000	0.721	-0.2237
M = 1.20; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.223	.0294	.0711	-07.60	-0.002	-0.0003	.0012	0.163	-0.0445
-01.8	00.0	-0.114	.0213	.0565	-05.35	-0.001	-0.0003	.0012	0.247	-0.0737
-00.8	00.0	-0.061	.0194	.0481	-03.14	-0.001	-0.0004	.0013	0.285	-0.0861
00.0	00.0	-0.007	.0193	.0375	-00.35	-0.001	-0.0005	.0014	0.323	-0.0985
01.2	00.0	0.053	.0212	.0258	02.52	-0.001	-0.0006	.0014	0.366	-0.1124
02.1	00.0	0.102	.0238	.0177	04.28	-0.001	-0.0005	.0014	0.395	-0.1210
04.1	00.0	0.232	.0373	.0043	06.20	0.000	-0.0005	.0011	0.472	-0.1469
06.0	00.0	0.350	.0592	-0.0051	05.92	0.001	-0.0006	.0009	0.540	-0.1698
08.1	00.0	0.468	.0897	-0.0121	05.22	0.002	-0.0009	.0007	0.610	-0.1918
09.1	00.0	0.526	.1085	-0.0167	04.85	0.003	-0.0009	.0006	0.643	-0.2010
M = 1.60; R = 2.4x10 <sup>6</sup> /ft										
-03.4	00.0	-0.156	.0232	.0586	-06.74	-0.001	-0.0003	.0009	0.155	-0.0405
-01.4	00.0	-0.079	.0178	.0479	-04.42	-0.001	-0.0004	.0009	0.216	-0.0608
-00.4	00.0	-0.036	.0170	.0422	-02.13	-0.001	-0.0004	.0009	0.243	-0.0697
00.5	00.0	0.002	.0172	.0359	00.12	-0.001	-0.0004	.0009	0.271	-0.0788
01.6	00.0	0.042	.0192	.0306	02.19	0.000	-0.0004	.0009	0.297	-0.0866
02.5	00.0	0.084	.0218	.0270	03.83	0.000	-0.0004	.0009	0.324	-0.0944
04.5	00.0	0.170	.0318	.0180	05.34	0.000	-0.0005	.0008	0.371	-0.1079
06.5	00.0	0.262	.0491	.0082	05.35	0.001	-0.0006	.0008	0.423	-0.1239
08.5	00.0	0.348	.0716	-0.0015	04.86	0.001	-0.0006	.0006	0.474	-0.1391
10.5	00.0	0.435	.1015	-0.0106	04.29	0.003	-0.0006	.0002	0.521	-0.1531
M = 2.01; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.143	.0223	.0529	-06.43	0.000	-0.0002	.0002	0.129	-0.0319
-01.9	00.0	-0.081	.0169	.0453	-04.81	0.000	-0.0003	.0002	0.178	-0.0474
-00.9	00.0	-0.050	.0153	.0412	-03.29	0.001	-0.0003	.0002	0.201	-0.0545
00.0	00.0	-0.018	.0151	.0368	-01.17	0.001	-0.0003	.0002	0.223	-0.0614
01.0	00.0	0.019	.0162	.0324	01.18	0.001	-0.0003	.0002	0.247	-0.0687
02.0	00.0	0.053	.0179	.0289	02.98	0.001	-0.0003	.0002	0.271	-0.0758
04.0	00.0	0.125	.0254	.0225	04.93	0.001	-0.0004	.0002	0.308	-0.0864
06.0	00.0	0.195	.0379	.0163	05.14	0.002	-0.0004	.0001	0.352	-0.1001
08.0	00.0	0.265	.0554	.0096	04.78	0.002	-0.0004	.0000	0.398	-0.1147
10.0	00.0	0.330	.0769	.0025	04.30	0.003	-0.0004	.0000	0.436	-0.1267

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TABLE XII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>;  $\delta_c = 12^\circ$  - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 2.51; R = $2.4 \times 10^6/\text{ft}$										
-04.3	00.0	-0.117	.0222	.0469	-05.27	0.001	.0000	.0000		
-02.2	00.0	-0.056	.0164	.0402	-03.42	0.001	.0000	.0000		
-00.1	00.0	0.009	.0151	.0324	00.57	0.002	.0000	-0.0001		
01.9	00.0	0.071	.0183	.0257	03.90	0.002	-0.0001	-0.0003		
04.0	00.0	0.136	.0263	.0208	05.18	0.003	-0.0001	-0.0002		
06.1	00.0	0.200	.0389	.0160	05.14	0.003	-0.0001	-0.0003		
08.2	00.0	0.261	.0559	.0106	04.67	0.004	-0.0001	-0.0003		
10.2	00.0	0.320	.0769	.0051	04.16	0.004	-0.0002	-0.0005		
-00.1	-02.0	0.010	.0152	.0324	00.67	0.013	.0013	-0.0036		
-00.1	00.0	0.010	.0152	.0320	00.69	0.001	.0000	-0.0001		
-00.1	02.0	0.009	.0151	.0329	00.62	0.010	-0.0015	0.0034		
-00.1	04.0	0.008	.0151	.0343	00.55	-0.021	-0.0028	0.0067		
M = 3.00; R = $2.5 \times 10^6/\text{ft}$										
-04.3	00.0	-0.097	.0201	.0413	-04.82	0.001	.0000	-0.0002		
-02.2	00.0	-0.043	.0148	.0359	-02.92	0.001	.0000	-0.0002		
-00.2	00.0	0.011	.0137	.0306	00.82	0.002	.0000	-0.0003		
01.8	00.0	0.066	.0169	.0253	03.92	0.003	-0.0001	-0.0003		
03.9	00.0	0.122	.0239	.0216	05.09	0.003	-0.0001	-0.0004		
06.0	00.0	0.175	.0349	.0182	05.03	0.003	-0.0001	-0.0004		
08.0	00.0	0.229	.0498	.0151	04.59	0.003	-0.0001	-0.0005		
10.1	00.0	0.279	.0679	.0113	04.11	0.004	-0.0002	-0.0005		
-00.2	-02.0	0.014	.0140	.0310	00.97	0.012	.0009	-0.0024		
-00.2	00.0	0.014	.0137	.0303	01.05	0.002	.0000	-0.0003		
-00.2	02.0	0.013	.0139	.0312	00.94	-0.009	-0.0010	0.0020		
-00.2	04.0	0.011	.0141	.0323	00.78	-0.020	-0.0020	0.0042		
M = 3.50; R = $2.5 \times 10^6/\text{ft}$										
-04.3	00.0	-0.079	.0174	.0355	-04.51	0.001	.0000	.0001		
-02.2	00.0	-0.033	.0132	.0324	-02.52	0.000	.0000	.0001		
-00.2	00.0	0.013	.0124	.0288	01.07	0.002	.0000	.0001		
01.8	00.0	0.061	.0152	.0253	04.03	0.002	-0.0001	.0000		
03.9	00.0	0.108	.0215	.0232	05.04	0.003	-0.0001	-0.0001		
05.9	00.0	0.156	.0315	.0214	04.95	0.003	-0.0001	.0001		
08.0	00.0	0.202	.0448	.0194	04.52	0.003	-0.0002	-0.0001		
10.1	00.0	0.246	.0608	.0175	04.05	0.004	-0.0003	-0.0003		
-00.2	-02.0	0.016	.0126	.0291	01.23	0.012	.0008	-0.0019		
-00.2	00.0	0.015	.0123	.0287	01.26	0.002	-0.0001	.0001		
-00.2	02.0	0.015	.0123	.0293	01.18	-0.010	-0.0009	0.0020		
-00.2	03.9	0.013	.0124	.0298	01.06	-0.020	-0.0017	0.0034		

TABLE XIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub> + Trip; δ<sub>c</sub> = 0°

(a) M = 2.51 to 3.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 2.51; R = 2.5×10 <sup>6</sup> /ft										
-04.4	00.0	-0.129	.0223	.0171	-05.78	0.000	.0000	-.0001		
-02.3	00.0	-0.067	.0153	.0110	-04.42	0.001	.0000	0.000		
-00.2	00.0	-0.004	.0129	.0037	-00.33	0.001	-.0001	-.0001		
01.8	00.0	0.060	.0147	-.0029	04.09	0.002	-.0001	-.0001		
03.9	00.0	0.126	.0213	-.0087	05.91	0.002	-.0001	-.0002		
06.0	00.0	0.189	.0325	-.0140	05.80	0.003	-.0001	-.0002		
08.1	00.0	0.250	.0482	-.0190	05.20	0.003	-.0001	-.0003		
10.2	00.0	0.312	.0686	-.0239	04.54	0.003	-.0001	-.0004		
-00.2	-02.0	0.000	.0130	.0033	00.02	0.013	.0010	-.0040		
-00.2	00.0	0.000	.0131	.0033	-00.01	0.001	.0000	-.0001		
-00.2	01.9	-0.001	.0129	.0036	-00.04	-0.011	-.0012	.0039		
-00.2	03.9	-0.001	.0129	.0037	-00.09	0.022	.0020	.0076		
02.9	-02.0	0.093	.0173	-.0057	05.38	0.013	.0012	-.0030		
02.9	00.0	0.093	.0172	-.0058	05.42	0.002	-.0001	-.0001		
02.9	01.9	0.094	.0173	-.0056	05.43	-0.010	-.0014	.0029		
02.9	03.9	0.093	.0173	-.0055	05.40	-0.021	-.0027	.0057		
06.0	04.0	0.188	.0321	-.0136	05.84	-0.019	-.0034	.0031		
06.0	01.9	0.190	.0324	-.0138	05.85	-0.009	-.0017	.0016		
06.0	00.0	0.189	.0324	-.0138	05.85	0.003	.0000	-.0002		
06.0	-02.0	0.188	.0323	-.0137	05.82	0.013	.0016	-.0019		
10.2	-02.0	0.311	.0682	-.0238	04.56	0.013	.0020	0.001		
10.2	00.0	0.312	.0686	-.0238	04.55	0.004	-.0001	-.0004		
10.2	02.0	0.312	.0685	-.0238	04.55	-0.006	-.0023	-.0009		
10.2	04.0	0.310	.0680	-.0233	04.56	-0.017	-.0045	-.0002		
M = 3.00; R = 2.5×10 <sup>6</sup> /ft										
-04.4	00.0	-0.110	.0199	.0140	-05.54	0.001	-.0001	-.0002		
-02.2	00.0	-0.057	.0136	.0092	-04.21	0.001	-.0001	-.0002		
-00.2	00.0	-0.001	.0110	.0040	-00.13	0.001	-.0001	-.0002		
01.8	00.0	0.054	.0131	-.0009	04.14	0.002	-.0001	-.0002		
03.9	00.0	0.109	.0189	-.0053	05.80	0.002	-.0001	-.0002		
05.9	00.0	0.163	.0287	-.0093	05.69	0.003	-.0001	-.0003		
08.0	00.0	0.218	.0423	-.0132	05.15	0.003	-.0001	-.0004		
10.1	00.0	0.270	.0598	-.0170	04.52	0.004	-.0001	-.0004		
-00.2	03.9	-0.001	.0114	.0042	-00.09	-0.021	-.0020	.0052		
-00.2	01.9	0.000	.0113	.0040	00.02	-0.010	-.0010	.0025		
-00.2	00.0	0.001	.0112	.0037	00.06	0.001	.0000	-.0001		
-00.2	-02.0	0.001	.0114	.0036	00.09	0.012	.0009	-.0027		
02.8	-02.0	0.081	.0154	-.0030	05.25	0.012	.0009	-.0018		
02.8	00.0	0.082	.0154	-.0032	05.30	0.002	-.0001	-.0002		
02.8	01.9	0.081	.0155	-.0029	05.23	-0.009	-.0011	.0015		
02.8	04.0	0.080	.0156	-.0026	05.15	-0.019	-.0021	.0031		
05.9	04.0	0.163	.0285	-.0089	05.73	-0.018	-.0028	.0008		
05.9	02.0	0.164	.0286	-.0091	05.74	-0.008	-.0015	.0003		
05.9	00.0	0.164	.0286	-.0094	05.73	0.003	-.0001	-.0003		
05.9	-02.0	0.163	.0285	-.0092	05.70	0.012	.0013	-.0009		
10.1	-02.0	0.269	.0595	-.0165	04.52	0.012	.0018	0.0005		
10.1	00.0	0.270	.0596	-.0170	04.54	0.003	-.0001	-.0004		
10.1	02.0	0.270	.0597	-.0165	04.52	-0.005	-.0021	-.0014		
10.1	04.0	0.269	.0597	-.0158	04.50	-0.015	-.0041	-.0019		

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TABLE XIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub> + Trip;  $\delta_c = 0^\circ$  - Concluded

(b) M = 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	$L/D$	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
$M = 3.50; R = 2.5 \times 10^6/\text{ft}$										
-04.3	00.0	-0.093	.0174	.0102	-05.33	0.000	.0000	.0003		
-02.3	00.0	-0.046	.0118	.0069	-03.94	0.000	.0000	.0002		
-00.2	00.0	0.000	.0099	.0035	00.02	0.001	.0000	.0003		
01.8	00.0	0.048	.0115	.0003	04.17	0.001	.0000	.0002		
03.8	00.0	0.096	.0167	-.0026	05.73	0.001	-.0001	.0002		
05.9	00.0	0.144	.0255	-.0055	05.65	0.001	-.0002	.0001		
08.0	00.0	0.191	.0376	-.0083	05.08	0.002	-.0002	.0001		
10.0	00.0	0.236	.0529	-.0108	04.47	0.003	-.0003	.0000		
-00.2	03.9	-0.001	.0098	.0041	-00.11	-0.022	-.0019	.0048		
-00.2	01.9	0.000	.0098	.0037	-00.02	-0.010	-.0010	.0027		
-00.2	00.0	0.000	.0097	.0035	-00.02	0.001	.0000	.0002		
-00.2	-02.0	-0.001	.0098	.0036	-00.07	0.012	.0009	-.0023		
02.8	-02.0	0.071	.0135	-.0010	05.27	0.012	.0008	-.0012		
02.8	00.0	0.072	.0134	-.0011	05.37	0.001	-.0001	.0002		
02.8	01.9	0.072	.0136	-.0010	05.30	-0.009	-.0010	.0016		
02.8	04.0	0.070	.0135	-.0007	05.13	-0.019	-.0019	.0026		
05.9	04.0	0.142	.0251	-.0052	05.66	0.017	.0025	.0003		
05.9	02.0	0.144	.0254	-.0053	05.67	-0.009	-.0014	.0005		
05.9	00.0	0.144	.0254	-.0054	05.68	0.001	-.0001	.0001		
05.9	-02.0	0.144	.0253	-.0053	05.68	0.011	.0012	-.0002		
10.0	-02.0	0.237	.0530	-.0102	04.48	0.011	.0019	.0010		
10.0	00.0	0.238	.0531	-.0109	04.48	0.003	-.0003	.0000		
10.0	02.0	0.236	.0528	-.0100	04.47	-0.005	-.0024	-.0010		
10.0	04.0	0.235	.0527	-.0099	04.47	-0.015	-.0044	-.0021		

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TABLE XIV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>2</sub>V<sub>1</sub>; δ<sub>C</sub> = 0°

(a) M = 2.51 to 3.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 2.51; R = 2.5×10 <sup>6</sup> /ft										
-04.4	00.0	-0.132	.0205	.0141	-06.43	-0.001	-.0001	.0003		
-02.2	00.0	-0.070	.0130	.0093	-05.34	0.000	-.0001	.0002		
-00.2	00.0	-0.005	.0102	.0033	-00.48	0.000	-.0001	.0002		
01.8	00.0	0.061	.0122	-.0022	05.03	0.001	-.0001	.0001		
03.9	00.0	0.126	.0192	-.0071	06.58	0.001	-.0001	.0000		
06.0	00.0	0.190	.0307	-.0117	06.19	0.002	-.0001	-.0001		
08.1	00.0	0.253	.0468	-.0164	05.40	0.003	-.0001	-.0002		
10.2	00.0	0.314	.0674	-.0207	04.66	0.003	-.0002	-.0001		
A 6 0 0										
-00.2	-02.0	-0.001	.0104	.0031	-00.09	0.012	-.0009	-.0036		
-00.2	00.0	-0.001	.0104	.0031	-00.12	0.000	-.0001	.0001		
-00.2	01.9	-0.002	.0103	.0033	-00.16	-0.011	-.0011	.0039		
-00.2	03.9	-0.002	.0104	.0036	-00.23	-0.023	-.0022	.0074		
02.9	-02.0	0.093	.0151	-.0047	06.19	0.012	.0012	-.0027		
02.9	00.0	0.095	.0151	-.0047	06.27	0.001	-.0001	.0000		
02.9	01.9	0.095	.0152	-.0045	06.25	-0.010	-.0015	.0028		
02.9	03.9	0.094	.0153	-.0042	06.11	-0.021	-.0028	.0053		
06.0	-02.0	0.190	.0306	-.0118	06.20	0.012	.0017	-.0015		
06.0	00.0	0.191	.0307	-.0117	06.21	0.002	-.0001	-.0001		
06.0	01.9	0.191	.0308	-.0116	06.21	-0.008	-.0019	.0014		
06.0	04.0	0.190	.0308	-.0115	06.17	-0.019	-.0038	.0027		
10.2	-02.0	0.313	.0672	-.0207	04.66	0.012	.0022	.0003		
10.2	00.0	0.314	.0674	-.0206	04.66	0.003	-.0002	-.0001		
10.2	02.0	0.314	.0674	-.0202	04.66	-0.005	-.0025	-.0008		
10.2	04.0	0.313	.0672	-.0198	04.66	-0.017	-.0049	-.0003		
	M = 3.00; R = 2.5×10 <sup>6</sup> /ft									
-04.4	00.0	-0.112	.0183	.0118	-06.15	0.000	-.0001	.0002		
-02.3	00.0	-0.058	.0117	.0078	-04.98	0.000	-.0001	.0002		
-00.2	00.0	-0.003	.0092	.0038	-00.33	0.000	-.0001	.0001		
01.8	00.0	0.053	.0110	.0000	04.85	0.001	-.0001	.0000		
03.9	00.0	0.110	.0171	-.0039	06.42	0.001	-.0001	-.0001		
05.9	00.0	0.164	.0271	-.0075	06.06	0.002	-.0002	-.0001		
08.0	00.0	0.219	.0411	-.0109	05.34	0.002	-.0002	-.0002		
10.1	00.0	0.272	.0588	-.0141	04.63	0.003	-.0002	-.0002		
-00.2	-02.0	-0.003	.0093	.0040	-00.32	0.011	-.0008	-.0024		
-00.2	00.0	-0.003	.0091	.0038	-00.33	0.000	-.0001	.0001		
-00.2	01.9	-0.004	.0093	.0041	-00.41	-0.010	-.0010	.0026		
-00.2	03.9	-0.005	.0095	.0043	-00.48	-0.021	-.0020	.0051		
02.8	-02.0	0.081	.0136	-.0019	05.99	0.010	.0008	-.0014		
02.8	00.0	0.082	.0134	-.0019	06.13	0.001	-.0001	.0000		
02.8	01.9	0.081	.0136	-.0016	06.00	-0.010	-.0010	.0014		
02.8	04.0	0.079	.0136	-.0014	05.82	-0.019	-.0020	.0028		
05.9	-02.0	0.165	.0271	-.0075	06.09	0.011	.0013	-.0004		
05.9	00.0	0.166	.0271	-.0075	06.11	0.002	-.0002	-.0001		
05.9	02.0	0.165	.0272	-.0073	06.05	-0.008	-.0016	.0003		
05.9	03.9	0.163	.0271	-.0068	06.02	-0.017	-.0030	.0004		
10.1	-02.0	0.272	.0590	-.0138	04.62	0.010	.0019	.0012		
10.1	00.0	0.273	.0589	-.0142	04.63	0.003	-.0002	-.0003		
10.1	02.0	0.271	.0588	-.0134	04.61	-0.005	-.0023	-.0016		
10.1	04.0	0.270	.0586	-.0128	04.61	-0.015	-.0043	-.0021		

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TABLE XIV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>2</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Concluded

(b) M = 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.096	.0161	.0086	-05.96	0.000	.0000	.0004		
-02.3	00.0	-0.049	.0103	.0062	-04.77	0.000	.0000	.0004		
-00.2	00.0	-0.001	.0082	.0038	-00.15	0.000	.0000	.0003		
01.8	00.0	0.046	.0098	.0015	04.69	0.001	.0000	.0003		
03.9	00.0	0.094	.0150	-0.0010	06.28	0.002	.0000	.0002		
05.9	00.0	0.143	.0239	-0.0035	05.96	0.002	-0.0001	.0002		
08.0	00.0	0.190	.0361	-0.0059	05.27	0.002	-0.0001	.0002		
10.0	00.0	0.238	.0519	-0.0082	04.59	0.002	-0.0002	.0001		
-00.2	-02.0	-0.001	.0084	.0039	-00.14	0.011	.0009	-0.0018		
-00.2	00.0	-0.001	.0082	.0037	-00.14	0.000	.0000	.0004		
-00.2	01.9	-0.002	.0083	.0041	-00.19	-0.011	-0.0009	.0025		
-00.2	03.9	-0.002	.0085	.0041	-00.29	-0.022	-0.0019	.0044		
02.8	-02.0	0.070	.0120	.0005	05.80	0.011	.0008	-0.0008		
02.8	00.0	0.070	.0118	.0005	05.95	0.001	.0000	.0003		
02.8	01.9	0.070	.0120	.0005	05.82	-0.010	-0.0009	.0013		
02.8	04.0	0.069	.0121	.0006	05.74	-0.019	-0.0018	.0021		
05.9	-02.0	0.142	.0238	-0.0033	05.96	0.011	.0010	.0002		
05.9	00.0	0.143	.0239	-0.0035	05.98	0.001	-0.0001	.0002		
05.9	02.0	0.143	.0239	-0.0032	05.97	-0.008	-0.0012	.0002		
05.9	03.9	0.141	.0238	-0.0031	05.95	-0.017	-0.0024	-0.0002		
10.0	-02.0	0.237	.0518	-0.0076	04.59	0.009	.0019	.0016		
10.0	00.0	0.238	.0519	-0.0081	04.59	0.002	-0.0002	.0001		
10.0	02.0	0.237	.0517	-0.0075	04.59	-0.005	-0.0023	-0.0014		
10.0	04.0	0.236	.0516	-0.0075	04.57	-0.015	-0.0044	-0.0025		

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TABLE XV. - AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>2</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0°

(a) M = 0.25 to 0.94										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.159	.0190	-.0073	-08.37	-0.006	-.0001	.0009		
-01.6	00.0	-0.067	.0120	-.0010	-05.56	-0.005	-.0002	.0006		
00.4	00.0	0.007	.0106	-.0014	00.67	-0.005	-.0003	.0004		
02.3	00.0	0.095	.0144	.0019	06.58	-0.004	-.0003	.0003		
04.3	00.0	0.187	.0237	.0068	07.87	-0.003	-.0004	-.0002		
06.4	00.0	0.299	.0411	.0117	07.26	-0.002	-.0004	-.0002		
08.4	00.0	0.410	.0659	.0173	06.22	0.000	-.0007	-.0010		
10.4	00.0	0.536	.1020	.0241	05.25	0.001	-.0009	-.0011		
M = 0.64; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.170	.0191	-.0049	-08.93	-0.004	-.0001	.0009		
-01.6	00.0	-0.083	.0121	-.0005	-06.82	-0.003	-.0002	.0006		
00.3	00.0	0.007	.0101	.0017	00.74	-0.003	-.0001	.0005		
02.4	00.0	0.097	.0138	.0039	07.05	-0.002	-.0002	.0003		
04.4	00.0	0.207	.0243	.0073	08.51	-0.001	-.0002	.0001		
06.4	00.0	0.324	.0432	.0104	07.49	0.002	-.0004	-.0001		
08.4	00.0	0.447	.0711	.0134	06.29	0.003	-.0005	-.0007		
10.3	00.0	0.570	.1073	.0170	05.32	0.003	-.0006	-.0009		
M = 0.74; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.186	.0210	-.0022	-08.87	-0.003	-.0002	.0008		
-01.7	00.0	-0.089	.0124	.0014	-07.16	-0.003	-.0002	.0007		
00.4	00.0	0.007	.0106	.0018	00.64	-0.002	-.0001	.0005		
02.2	00.0	0.095	.0139	.0038	06.85	-0.002	-.0002	.0004		
04.2	00.0	0.200	.0234	.0067	08.54	-0.001	-.0002	.0001		
06.2	00.0	0.322	.0422	.0083	07.64	0.001	-.0004	-.0002		
08.2	00.0	0.452	.0706	.0095	06.39	0.002	-.0006	-.0006		
10.3	00.0	0.586	.1101	.0102	05.32	0.003	-.0008	-.0009		
M = 0.84; R = 2.0x10 <sup>6</sup> /ft										
-03.8	00.0	-0.200	.0218	.0025	-09.16	-0.003	-.0001	.0007		
-01.9	00.0	-0.103	.0130	.0047	-07.92	-0.003	-.0001	.0005		
00.1	00.0	-0.005	.0101	.0037	-00.53	-0.002	-.0000	.0004		
02.2	00.0	0.091	.0134	.0044	06.76	-0.001	-.0001	.0002		
04.1	00.0	0.199	.0230	.0052	08.67	-0.001	-.0001	.0001		
06.1	00.0	0.328	.0426	.0049	07.71	0.001	-.0003	-.0003		
08.1	00.0	0.460	.0716	.0025	06.42	0.002	-.0006	-.0006		
10.1	00.0	0.596	.1113	.0002	05.36	0.002	-.0008	-.0008		
M = 0.94; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.231	.0281	.0189	-08.22	-0.001	-.0002	.0005		
-02.1	00.0	-0.122	.0172	.0137	-07.06	-0.001	-.0002	.0004		
00.0	00.0	-0.010	.0129	.0074	-00.79	0.000	-.0003	.0001		
01.9	00.0	0.093	.0162	.0033	05.72	0.000	-.0002	.0001		
03.9	00.0	0.220	.0272	-.0059	08.07	0.001	-.0002	-.0001		
05.9	00.0	0.362	.0487	-.0188	07.43	0.002	-.0002	-.0003		
07.9	00.0	0.511	.0826	-.0365	06.19	0.002	-.0004	-.0007		
09.9	00.0	0.654	.1260	-.0523	05.19	0.003	-.0006	-.0008		

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TABLE XV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>2</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(b) M = 0.99 to 2.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 0.99; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.229	.0342	.0218	-06.68	-0.001	-.0003	.0006		
-02.1	00.0	-0.123	.0216	.0151	-05.68	-0.001	-.0002	.0005		
-00.1	00.0	-0.012	.0155	.0052	-00.74	-0.001	-.0003	.0003		
01.8	00.0	0.096	.0200	-.0031	04.78	0.000	-.0003	.0001		
03.8	00.0	0.215	.0299	-.0129	07.17	0.001	-.0003	-.0003		
05.8	00.0	0.343	.0502	-.0238	06.83	0.001	-.0001	-.0004		
07.8	00.0	0.483	.0813	-.0385	05.95	0.002	-.0003	-.0007		
10.0	00.0	0.623	.1220	-.0528	05.11	0.003	-.0005	-.0008		
M = 1.09; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.216	.0299	.0208	-07.24	-0.002	-.0002	.0006		
-02.0	00.0	-0.106	.0196	.0121	-05.43	-0.001	-.0003	.0005		
00.0	00.0	-0.008	.0164	.0016	-00.51	-0.001	-.0002	.0005		
02.0	00.0	0.104	.0198	-.0105	05.25	0.000	-.0003	.0003		
03.9	00.0	0.217	.0295	-.0237	07.35	0.000	-.0004	.0001		
06.0	00.0	0.357	.0505	-.0374	07.06	0.001	.0001	.0000		
07.9	00.0	0.481	.0795	-.0440	06.05	0.002	.0000	-.0006		
09.9	00.0	0.603	.1174	-.0518	05.14	0.002	-.0003	-.0007		
M = 1.19; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.202	.0269	.0231	-07.51	-0.002	-.0005	.0009		
-02.0	00.0	-0.103	.0173	.0143	-05.98	-0.001	-.0004	.0008		
00.1	00.0	-0.001	.0137	.0008	-00.07	-0.001	-.0004	.0005		
02.0	00.0	0.102	.0175	-.0115	05.84	0.000	-.0003	.0003		
06.0	00.0	0.332	.0466	-.0365	07.12	0.001	-.0003	.0002		
08.0	00.0	0.457	.0753	-.0502	06.07	0.001	.0000	.0002		
10.0	00.0	0.583	.1130	-.0673	05.16	0.002	-.0001	-.0004		
M = 1.59; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.141	.0215	.0173	-06.56	-0.002	-.0001	.0009		
-01.7	00.0	-0.065	.0147	.0096	-04.44	-0.002	-.0001	.0009		
00.3	00.0	0.014	.0127	.0004	01.08	-0.001	-.0001	.0008		
02.2	00.0	0.087	.0159	-.0073	05.45	-0.001	-.0002	.0007		
04.2	00.0	0.171	.0244	-.0161	07.01	0.000	-.0002	.0005		
06.3	00.0	0.261	.0399	-.0254	06.54	0.001	-.0003	.0003		
08.3	00.0	0.344	.0605	-.0341	05.69	0.001	-.0004	.0001		
10.3	00.0	0.429	.0876	-.0433	04.89	0.002	-.0005	-.0002		
M = 2.00; R = 2.0x10 <sup>6</sup> /ft										
-04.3	00.0	-0.140	.0215	.0163	-06.52	0.000	-.0002	.0001		
-02.3	00.0	-0.078	.0141	.0100	-05.55	0.000	-.0002	.0000		
-00.2	00.0	-0.013	.0108	.0035	-01.19	0.000	-.0001	.0000		
01.7	00.0	0.054	.0127	-.0020	04.23	0.000	-.0002	.0000		
03.5	00.0	0.118	.0183	-.0074	06.41	0.001	-.0002	-.0001		
05.7	00.0	0.189	.0297	-.0134	06.36	0.001	-.0002	-.0002		
07.6	00.0	0.256	.0451	-.0190	05.68	0.001	-.0002	-.0004		
09.6	00.0	0.324	.0657	-.0253	04.93	0.002	-.0002	-.0005		

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TABLE XV. - AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>2</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Continued

(c) M = 2.51 to 3.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 2.51; R = 2.4x10 <sup>6</sup> /ft										
10.3	00.0	0.312	.0674	-.0209	04.63	0.002	.0003	-.0001		
08.2	00.0	0.251	.0470	-.0165	05.35	0.002	.0002	0.000		
06.1	00.0	0.188	.0306	-.0120	06.13	0.002	.0002	0.001		
04.0	00.0	0.125	.0192	-.0074	06.51	0.001	.0002	0.001		
01.9	00.0	0.063	.0124	-.0026	05.05	0.001	.0002	0.002		
-00.1	00.0	-.0002	.0102	-.0024	00.17	0.000	.0002	0.000		
-02.2	00.0	-.0064	.0130	-.0078	-04.90	0.000	.0002	0.000		
-04.3	00.0	-.0123	.0198	-.0122	-06.20	0.001	.0002	-.0001		
-00.1	-02.0	0.000	.0103	.0025	00.02	0.014	.0004	-.0044		
-00.1	00.0	0.000	.0101	.0023	00.01	0.000	.0002	0.001		
-00.1	01.9	0.000	.0102	.0023	00.01	-0.014	-.0001	0.048		
-00.1	03.9	-.0001	.0103	.0026	-00.06	-0.028	-.0003	0.091		
02.9	-02.0	0.091	.0153	-.0046	05.97	0.014	.0008	-.0035		
02.9	00.0	0.093	.0151	-.0050	06.15	0.001	.0003	0.001		
02.9	01.9	0.092	.0152	-.0048	06.08	-0.013	-.0004	0.038		
02.9	03.9	0.091	.0153	-.0045	05.96	-0.026	-.0009	0.072		
06.1	-02.0	0.185	.0305	-.0116	06.07	0.015	.0012	-.0022		
06.1	00.0	0.187	.0306	-.0119	06.11	0.002	.0003	0.001		
06.1	01.9	0.188	.0308	-.0117	06.09	-0.011	-.0007	0.024		
06.1	04.0	0.185	.0305	-.0115	06.07	-0.024	-.0015	0.045		
10.3	-02.0	0.311	.0672	-.0205	04.62	0.014	.0014	-.0004		
10.3	00.0	0.312	.0674	-.0209	04.63	0.002	.0002	-.0001		
10.3	01.9	0.311	.0674	-.0210	04.62	-0.010	-.0010	0.001		
10.3	04.0	0.309	.0671	-.0203	04.61	-0.023	-.0021	0.010		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-.0105	.0175	.0096	-05.99	0.001	.0001	-.0001		
-02.3	00.0	-.0054	.0114	.0066	-04.78	0.001	.0001	0.000		
-00.2	00.0	-.0001	.0089	.0029	-00.16	0.001	.0001	0.000		
01.8	00.0	0.053	.0110	-.0009	04.81	0.001	.0002	0.000		
03.9	00.0	0.108	.0172	-.0046	06.29	0.001	.0002	0.000		
06.0	00.0	0.163	.0272	-.0084	06.01	0.002	.0002	0.000		
08.0	00.0	0.217	.0412	-.0118	05.27	0.002	.0002	-.0001		
10.2	00.0	0.271	.0591	-.0153	04.58	0.003	.0002	-.0001		
-00.2	-02.0	0.001	.0091	.0028	00.15	0.013	.0003	-.0032		
-00.2	00.0	0.001	.0089	.0028	00.16	0.001	.0001	0.000		
-00.2	01.9	0.001	.0091	.0027	00.11	-0.012	-.0001	0.033		
-00.2	03.9	0.001	.0093	.0028	00.06	-0.025	-.0003	0.066		
02.8	-02.0	0.080	.0136	-.0024	05.86	0.014	.0002	-.0024		
02.8	00.0	0.081	.0135	-.0028	06.03	0.001	.0001	0.000		
02.8	01.9	0.081	.0136	-.0026	05.94	-0.012	.0001	0.024		
02.8	03.9	0.079	.0137	-.0023	05.80	-0.024	-.0001	0.047		
06.0	-02.0	0.162	.0271	-.0081	05.99	0.014	.0006	-.0012		
06.0	00.0	0.164	.0271	-.0084	06.05	0.002	.0002	0.000		
06.0	02.0	0.164	.0273	-.0083	06.02	-0.011	-.0002	0.011		
06.0	04.0	0.162	.0270	-.0078	05.99	-0.023	-.0007	0.021		
10.2	-02.0	0.269	.0590	-.0147	04.57	0.014	.0010	0.0005		
10.2	00.0	0.271	.0592	-.0153	04.58	0.003	.0002	-.0001		
10.2	02.0	0.270	.0590	-.0150	04.57	-0.009	-.0007	-.0007		
10.2	04.0	0.269	.0590	-.0144	04.56	-0.021	-.0016	-.0008		

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TABLE XV.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>2</sub>C<sub>1</sub>V<sub>1</sub>; δ<sub>c</sub> = 0° - Concluded

(d) M = 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.089	.0150	.0064	-05.91	0.000	.0001	.0002		
-02.2	00.0	-0.045	.0097	.0046	-04.62	0.000	.0001	.0002		
-00.2	00.0	0.000	.0078	.0025	00.02	0.000	.0001	.0003		
01.8	00.0	0.046	.0095	.0001	04.85	0.001	.0001	.0002		
03.9	00.0	0.094	.0148	-0.022	06.34	0.001	.0001	.0003		
06.0	00.0	0.141	.0238	-0.0047	05.94	0.001	.0001	.0003		
08.0	00.0	0.189	.0360	-0.0075	05.25	0.002	.0001	.0003		
10.1	00.0	0.238	.0522	-0.0103	04.55	0.002	.0001	.0002		
-00.2	-02.0	0.002	.0080	.0025	00.25	0.013	.0005	-0.0025		
-00.2	00.0	0.002	.0078	.0023	00.25	0.000	.0001	.0003		
-00.2	01.9	0.002	.0080	.0024	00.30	-0.012	-0.0003	.0031		
-00.2	03.9	0.002	.0081	.0026	00.19	-0.025	-0.0006	.0055		
02.8	-02.0	0.070	.0117	-0.0007	05.95	0.013	.0003	-0.0016		
02.8	00.0	0.070	.0116	-0.0010	06.05	0.001	.0001	.0002		
02.8	01.9	0.070	.0117	-0.0010	05.97	-0.012	-0.0001	.0022		
02.8	04.0	0.069	.0119	-0.0010	05.82	-0.023	-0.0002	.0037		
05.9	-02.0	0.141	.0235	-0.0045	05.99	0.014	.0003	-0.0006		
05.9	00.0	0.143	.0237	-0.0047	06.02	0.002	.0001	.0002		
05.9	02.0	0.142	.0236	-0.0048	06.01	-0.011	.0000	.0012		
05.9	04.0	0.140	.0236	-0.0046	05.95	-0.023	-0.0003	.0015		
10.1	-02.0	0.237	.0521	-0.0094	04.55	0.012	.0012	.0011		
10.1	00.0	0.237	.0521	-0.0103	04.56	0.002	.0001	.0002		
10.1	02.0	0.237	.0521	-0.0097	04.54	-0.008	-0.0009	-0.0005		
10.1	04.0	0.235	.0518	-0.0092	04.54	-0.021	-0.0018	-0.0013		

TABLE XVI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>+N; δ<sub>c</sub> = 0°

(a) M = 0.65 to 1.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 0.65; R = 3.0×10 <sup>6</sup> /ft										
-04.2	00.0	-0.227	.0278	.0137	-8.165	0.000	.0004	-0.0003		
-02.1	00.0	-0.119	.0164	.0144	-7.256	0.000	.0004	-0.0002		
00.0	00.0	-0.022	.0125	.0128	-1.760	0.001	.0004	.0001		
02.1	00.0	0.082	.0159	.0133	5.157	0.000	.0003	.0003		
04.3	00.0	0.191	.0261	.0150	7.318	0.000	.0004	.0002		
08.7	00.0	0.415	.0727	.0261	5.708	0.000	.0002	.0003		
03.2	-04.0	0.135	.0191	.0142	7.068	0.039	.0066	-0.0134		
03.2	-02.0	0.137	.0192	.0140	7.135	0.019	.0035	-0.0059		
03.2	00.0	0.136	.0197	.0138	6.904	0.000	.0004	.0002		
03.2	01.9	0.135	.0199	.0137	6.784	-0.018	-0.0025	.0060		
03.2	03.9	0.131	.0196	.0134	6.684	-0.038	-0.0055	.0135		
M = 0.85; R = 3.0×10 <sup>6</sup> /ft										
-04.3	00.0	-0.246	.0296	.0212	-8.311	0.000	.0004	-0.0003		
-02.2	00.0	-0.131	.0170	.0192	-7.706	0.000	.0004	-0.0002		
00.0	00.0	-0.023	.0129	.0153	-1.783	0.000	.0003	.0000		
02.2	00.0	0.093	.0163	.0134	5.706	0.000	.0003	.0003		
04.4	00.0	0.214	.0284	.0128	7.535	0.000	.0004	.0001		
08.9	00.0	0.452	.0811	.0218	5.573	0.000	.0002	.0003		
03.3	-04.0	0.152	.0206	.0134	7.379	0.039	.0073	-0.0142		
03.3	-02.0	0.153	.0210	.0131	7.286	0.019	.0038	-0.0063		
03.3	00.0	0.151	.0208	.0129	7.260	0.001	.0005	.0001		
03.3	01.9	0.150	.0212	.0130	7.075	-0.018	-0.0028	.0064		
03.3	03.9	0.147	.0210	.0126	7.000	-0.039	-0.0062	.0140		
M = 0.95; R = 3.0×10 <sup>6</sup> /ft										
-04.4	00.0	-0.269	.0332	.0342	-8.102	0.000	.0003	-0.0004		
-02.1	00.0	-0.136	.0195	.0248	-6.974	0.001	.0003	-0.0003		
00.0	00.0	-0.017	.0146	.0148	-1.164	0.002	-0.0002	-0.0004		
02.2	00.0	0.108	.0183	.0089	5.902	0.000	.0003	.0002		
04.5	00.0	0.245	.0328	.0022	7.470	0.001	.0006	.0001		
09.0	00.0	0.497	.0911	.0053	5.456	0.002	.0004	.0003		
M = 1.00; R = 3.0×10 <sup>6</sup> /ft										
-04.4	00.0	-0.267	.0391	.0403	-6.829	0.000	.0004	-0.0002		
-02.2	00.0	-0.136	.0258	.0279	-5.271	0.000	.0003	-0.0002		
00.0	00.0	-0.013	.0210	.0157	-0.619	0.001	.0004	.0001		
02.2	00.0	0.120	.0255	.0030	4.706	0.000	.0003	.0003		
04.5	00.0	0.255	.0404	-0.095	6.312	0.000	.0004	.0002		
09.0	00.0	0.539	.1036	-0.0343	5.203	0.000	.0004	.0003		
03.4	-04.0	0.187	.0306	-0.0030	6.111	0.042	.0081	-0.0154		
03.4	-02.0	0.189	.0309	-0.0032	6.117	0.020	.0042	-0.0068		
03.4	00.0	0.187	.0310	-0.0032	6.032	0.000	.0004	.0001		
03.4	01.9	0.183	.0309	-0.0030	5.922	-0.020	-0.0032	.0067		
03.4	03.9	0.184	.0309	-0.0037	5.955	-0.043	-0.0072	.0154		

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TABLE XVI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1</sub>+N; δ<sub>c</sub> = 0° - Continued

(b) M = 1.25 to 2.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 1.25; R = 3.0×10 <sup>6</sup> /ft										
-04.4	00.0	-0.233	.0356	.0384	-6.545	0.000	.0005	-.0004		
-02.1	00.0	-0.114	.0228	.0249	-5.000	0.000	.0004	-.0003		
00.0	00.0	0.000	.0186	.0082	0.000	0.000	.0004	0.000		
02.3	00.0	0.124	.0238	-.0084	5.210	-0.001	.0002	0.004		
04.5	00.0	0.249	.0379	-.0231	6.570	-0.001	.0003	0.001		
09.0	00.0	0.495	.0966	-.0442	5.124	0.000	.0000	0.002		
03.4	-04.0	0.186	.0291	-.0152	6.392	0.044	.0071	-.0167		
03.4	-02.0	0.188	.0297	-.0156	6.330	0.021	.0036	-.0077		
03.4	00.0	0.185	.0291	-.0156	6.357	0.000	.0004	0.001		
03.4	01.9	0.184	.0295	-.0154	6.237	-0.022	-.0028	0.0077		
03.4	03.9	0.183	.0294	-.0155	6.224	-0.045	-.0063	0.0167		
M = 1.41; R = 3.0×10 <sup>6</sup> /ft										
-04.4	00.0	-0.213	.0330	.0340	-6.455	-0.001	.0001	0.006		
-02.1	00.0	-0.103	.0216	.0211	-4.769	-0.001	.0001	0.006		
00.0	00.0	0.005	.0178	.0050	0.281	-0.001	.0002	0.007		
02.2	00.0	0.118	.0227	-.0092	5.198	-0.001	.0002	0.008		
04.5	00.0	0.232	.0357	-.0221	6.499	-0.001	.0003	0.006		
09.0	00.0	0.457	.0887	-.0462	5.152	-0.001	.0002	0.009		
03.4	-04.0	0.173	.0278	-.0155	6.223	0.046	.0062	-.0177		
03.4	-02.0	0.175	.0279	-.0159	6.272	0.022	.0031	-.0081		
03.4	00.0	0.174	.0279	-.0157	6.237	-0.001	.0002	0.007		
03.3	01.9	0.169	.0276	-.0150	6.123	-0.024	-.0026	0.0094		
03.3	03.9	0.168	.0276	-.0151	6.087	-0.047	-.0055	0.0189		
M = 1.60; R = 2.5×10 <sup>6</sup> /ft										
-04.1	00.0	-0.180	.0298	.0329	-6.040	-0.001	.0005	-.0003		
-02.0	00.0	-0.085	.0203	.0202	-4.187	0.001	.0004	-.0005		
00.0	00.0	0.002	.0171	.0072	0.117	0.001	-.0001	-.0003		
02.2	00.0	0.100	.0215	-.0073	4.651	0.000	-.0002	-.0001		
04.3	00.0	0.203	.0325	-.0215	6.246	0.001	-.0003	0.000		
08.6	00.0	0.406	.0781	-.0440	5.198	0.000	-.0004	0.005		
03.2	-03.9	0.153	.0261	-.0148	5.862	0.044	.0050	-.0169		
03.2	-01.9	0.152	.0262	-.0149	5.802	0.021	.0023	-.0079		
03.2	00.0	0.153	.0261	-.0149	5.862	0.001	-.0002	-.0002		
03.3	02.0	0.156	.0263	-.0156	5.932	-0.020	-.0027	0.0076		
03.3	04.0	0.158	.0264	-.0160	5.985	-0.043	-.0053	0.0160		
M = 2.00; R = 2.4×10 <sup>6</sup> /ft										
-04.0	00.0	-0.148	.0264	.0225	-5.606	-0.001	.0001	-.0003		
-01.9	00.0	-0.073	.0186	.0150	-3.925	0.000	.0001	-.0004		
00.1	00.0	0.006	.0160	.0039	0.375	0.001	.0000	-.0004		
02.3	00.0	0.091	.0205	-.0070	4.439	0.001	.0000	-.0004		
04.4	00.0	0.173	.0304	-.0163	5.691	0.001	.0000	-.0003		
08.7	00.0	0.334	.0684	-.0320	4.883	0.001	.0003	-.0001		
03.3	-04.0	0.134	.0248	-.0118	5.403	0.037	.0043	-.0112		
03.3	-02.0	0.134	.0248	-.0121	5.403	0.018	.0021	-.0055		
03.3	00.0	0.135	.0248	-.0124	5.444	0.001	.0001	-.0003		
03.4	02.0	0.137	.0251	-.0125	5.458	-0.017	-.0019	0.0049		
03.4	04.0	0.138	.0254	-.0128	5.433	-0.036	-.0040	0.0104		

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TABLE XVI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>1</sub>W<sub>1</sub>C<sub>1</sub>V<sub>1+N</sub>; δ<sub>c</sub> = 0° - Concluded

(c) M = 2.50 to 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h</sub>
M = 2.50; R = 2.5×10 <sup>6</sup> /ft										
-04.2	00.0	-0.129	.0242	.0149	-5.331	0.000	.0001	-0.003		
-02.2	00.0	-0.065	.0169	.0077	-3.846	0.000	.0002	-0.003		
-00.1	00.0	0.000	.0139	.0003	0.000	0.000	.0002	-0.003		
02.0	00.0	0.069	.0169	-0.068	4.083	0.001	.0001	-0.001		
04.1	00.0	0.138	.0248	-0.0131	5.565	0.001	.0001	0.000		
08.3	00.0	0.274	.0564	-0.0251	4.858	0.000	.0002	0.001		
03.0	-04.0	0.105	.0207	-0.0099	5.072	0.032	.0033	-0.0065		
03.0	-02.0	0.105	.0204	-0.0096	5.147	0.015	.0018	-0.0030		
03.0	00.0	0.104	.0201	-0.0102	5.174	0.001	.0002	0.000		
03.0	02.0	0.108	.0206	-0.0103	5.243	-0.014	-0.0014	0.0030		
03.0	04.0	0.106	.0206	-0.0106	5.146	-0.031	-0.0028	0.0062		
M = 3.00; R = 2.5×10 <sup>6</sup> /ft										
-04.2	00.1	-0.111	.0207	.0106	-5.362	0.000	.0002	0.000		
-00.1	00.1	0.003	.0118	.0001	0.254	0.000	.0002	-0.0001		
01.9	00.1	0.060	.0145	-0.050	4.138	0.000	.0001	-0.0002		
04.0	00.1	0.118	.0217	-0.096	5.438	0.000	.0001	-0.0002		
08.1	00.1	0.234	.0483	-0.0196	4.845	0.000	.0001	-0.0002		
02.8	-04.0	0.088	.0178	-0.0074	4.944	0.029	.0025	-0.0037		
02.9	00.1	0.089	.0175	-0.0073	5.086	0.000	.0001	-0.0002		
03.0	04.2	0.089	.0181	-0.0077	4.917	-0.030	-0.0022	0.0036		
03.1	08.3	0.087	.0188	-0.0078	4.628	-0.067	-0.0042	0.0077		
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.2	00.0	-0.094	.0189	.0073	-4.974	-0.001	.0002	.0002		
-00.1	00.0	0.002	.0111	.0001	0.180	-0.001	.0002	.0003		
01.9	00.0	0.051	.0136	-0.040	3.750	-0.001	.0001	.0001		
03.9	00.0	0.102	.0197	-0.0078	5.178	0.000	.0001	.0001		
08.0	00.0	0.201	.0428	-0.144	4.696	0.000	.0000	.0001		
02.6	-04.2	0.075	.0160	-0.0057	4.688	0.028	.0023	-0.0026		
02.9	00.0	0.076	.0157	-0.0059	4.841	0.000	.0001	.0001		
03.4	08.6	0.074	.0177	-0.0059	4.181	-0.066	-0.0039	0.0046		
03.2	04.3	0.076	.0165	-0.0061	4.606	-0.030	-0.0020	0.0028		

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TABLE XVII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>

(a) M = 0.25 to 0.95										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
$M = 0.25; R = 2.0 \times 10^6/\text{ft}$										
-03.4	00.0	-0.007	.0026	-.0055	-02.83	-0.001	.0000	-.0001		
-01.5	00.0	-0.005	.0026	-.0027	-02.07	-0.001	.0000	-.0001		
-00.6	00.0	-0.004	.0028	-.0008	-01.29	-0.001	-.0002	-.0001		
00.4	00.0		.0028	.0007	-01.27	-0.001	.0000	-.0001		
01.4	00.0		.0029	.0014	-01.23	-0.001	-.0002	-.0001		
02.4	00.0	0.000	.0029	.0037	-00.01	-0.001	-.0002	-.0001		
04.4	00.0	0.003	.0030	.0061	01.14	-0.001	.0000	-.0001		
06.4	00.0	0.007	.0033	.0092	02.03	-0.002	.0000	-.0002		
08.4	00.0		.0037	.0124	02.14	-0.001	.0001	-.0001		
10.4	00.0	0.015	.0050	.0154	02.88	-0.001	-.0001	-.0003		
$M = 0.65; R = 2.4 \times 10^6/\text{ft}$										
-03.6	00.0	-0.005	.0029	-.0061	-01.59	0.000	.0000	-.0001		
-01.6	00.0	-0.002	.0027	-.0029	-00.64	0.000	.0000	-.0002		
-00.6	00.0	-0.001	.0029	-.0014	-00.19	0.000	-.0001	-.0002		
00.3	00.0	0.000	.0030	.0000	-00.01	0.000	-.0001	-.0002		
01.3	00.0	0.002	.0030	.0018	00.80	0.000	-.0001	-.0002		
02.3	00.0	0.004	.0030	.0030	01.19	0.000	-.0001	-.0002		
04.3	00.0	0.006	.0032	.0061	02.01	0.000	.0000	-.0002		
06.2	00.0	0.009	.0035	.0092	02.61	0.000	.0000	-.0002		
08.3	00.0	0.013	.0044	.0126	03.00	0.000	-.0001	-.0002		
10.3	00.0	0.019	.0058	.0161	03.24	0.000	-.0001	-.0002		
$M = 0.75; R = 2.4 \times 10^6/\text{ft}$										
-03.5	00.0	-0.005	.0030	-.0061	-01.54	0.000	.0000	-.0001		
-01.6	00.0	-0.002	.0027	-.0029	-00.73	0.000	.0000	-.0001		
-00.6	00.0	-0.002	.0027	-.0013	-00.75	0.000	.0000	-.0001		
00.3	00.0	0.000	.0030	.0002	00.00	0.000	.0000	-.0001		
01.4	00.0	0.002	.0030	.0018	00.69	0.000	-.0001	-.0001		
02.3	00.0	0.003	.0031	.0029	00.99	0.000	-.0001	-.0001		
04.2	00.0	0.006	.0034	.0062	01.84	0.000	.0000	-.0002		
06.3	00.0	0.009	.0042	.0090	02.17	0.000	-.0001	-.0002		
08.2	00.0	0.013	.0046	.0126	02.89	0.000	-.0001	-.0002		
10.3	00.0	0.018	.0058	.0164	03.16	0.000	-.0001	-.0002		
$M = 0.85; R = 2.4 \times 10^6/\text{ft}$										
-03.7	00.0	-0.005	.0029	-.0061	-01.62	0.000	-.0001	-.0001		
-01.7	00.0	-0.003	.0026	-.0030	-01.05	0.000	-.0001	-.0001		
-00.7	00.0	-0.001	.0028	-.0015	-00.49	0.000	-.0001	-.0001		
00.2	00.0	0.000	.0027	.0001	-00.18	0.000	-.0001	-.0001		
01.3	00.0	0.002	.0029	.0014	00.65	0.000	-.0001	-.0001		
02.2	00.0	0.003	.0031	.0030	00.92	0.000	-.0001	-.0001		
04.2	00.0	0.006	.0031	.0059	01.96	0.000	-.0001	-.0001		
06.3	00.0	0.010	.0033	.0091	02.95	0.000	-.0001	-.0002		
08.2	00.0	0.013	.0045	.0123	02.99	0.000	-.0001	-.0001		
10.4	00.0	0.019	.0057	.0161	03.29	0.000	-.0001	-.0002		
$M = 0.95; R = 2.4 \times 10^6/\text{ft}$										
-03.9	00.0	-0.006	.0033	-.0060	-01.69	0.000	-.0001	-.0001		
-01.8	00.0	-0.003	.0023	-.0029	-01.34	0.000	-.0001	-.0001		
-00.9	00.0	-0.002	.0026	-.0015	-00.67	0.000	-.0001	-.0001		
00.0	00.0	0.000	.0030	-.0001	-00.15	0.000	-.0001	-.0001		
01.1	00.0	0.002	.0027	.0013	00.67	0.000	-.0001	-.0001		
02.0	00.0	0.003	.0027	.0027	01.14	0.000	-.0001	-.0001		
04.0	00.0	0.006	.0031	.0058	02.00	0.000	-.0001	-.0001		
06.1	00.0	0.010	.0033	.0089	03.03	0.000	-.0001	-.0001		
08.0	00.0	0.014	.0037	.0123	03.72	0.000	-.0001	-.0002		
10.1	00.0	0.019	.0049	.0156	03.93	0.000	-.0001	-.0002		

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TABLE XVII. - AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub> - Continued

(b) M = 1.00 to 2.01										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
$M = 1.00; R = 2.4 \times 10^6/\text{ft}$										
-03.8	00.0	-0.005	.0036	-.0060	-01.51	0.000	-0.0001	-0.0001		
-01.9	00.0	-0.003		-.0030	-00.74	0.000	-0.0001	-0.0001		
-01.0	00.0	-0.002	.0029	-.0017	-00.59	0.000	-0.0001	-0.0001		
00.0	00.0	0.000		-.0002	00.00	0.000	-0.0001	-0.0001		
01.0	00.0	0.001	.0032	.0014	00.40	0.000	-0.0001	-0.0001		
01.9	00.0	0.003	.0035	.0026	00.97	0.000	-0.0001	-0.0001		
03.9	00.0	0.007	.0042	.0056	01.62	0.000	-0.0001	-0.0001		
05.9	00.0	0.009	.0043	.0089	02.14	0.000	-0.0001	-0.0001		
07.9	00.0	0.013	.0039	.0122	03.35	0.000	-0.0001	-0.0001		
10.1	00.0	0.019	.0062	.0162	03.05	0.000	-0.0001	-0.0002		
$M = 1.10; R = 2.4 \times 10^6/\text{ft}$										
-03.9	00.0	-0.006	.0045	-.0061	-01.30	0.000	-0.0001	-0.0001		
-01.8	00.0	-0.003	.0034	-.0031	-00.91	0.000	-0.0001	-0.0001		
-00.9	00.0	-0.002	.0044	-.0015	-00.44	0.000	-0.0001	-0.0001		
00.1	00.0	0.000	.0040	-.0002	00.00	0.000	-0.0001	0.0000		
01.0	00.0	0.002	.0045	.0014	00.35	0.000	-0.0001	-0.0001		
02.1	00.0	0.003	.0042	.0027	00.75	0.000	-0.0001	-0.0001		
04.2	00.0	0.006	.0047	.0059	01.25	0.000	-0.0001	0.0000		
05.9	00.0	0.009	.0048	.0089	01.88	0.000	-0.0001	0.0000		
07.9	00.0	0.013	.0058	.0122	02.28	0.000	-0.0001	-0.0001		
10.0	00.0	0.018	.0068	.0158	02.70	0.000	-0.0001	-0.0001		
$M = 1.20; R = 2.4 \times 10^6/\text{ft}$										
-03.8	00.0	-0.005	.0040	-.0061	-01.37	0.000	-0.0001	-0.0002		
-01.8	00.0	-0.003	.0038	-.0031	-00.76	0.000	-0.0002	-0.0002		
-00.9	00.0	-0.001	.0039	-.0016	-00.37	0.000	-0.0002	-0.0001		
00.1	00.0	0.000	.0039	-.0001	-00.10	0.000	-0.0003	-0.0001		
01.1	00.0	0.001	.0039	.0014	00.38	0.000	-0.0001	-0.0001		
02.1	00.0	0.003	.0040	.0028	00.66	0.000	-0.0002	-0.0002		
04.1	00.0	0.006	.0041	.0060	01.46	0.000	-0.0002	-0.0002		
06.0	00.0	0.009	.0046	.0095	02.05	0.000	-0.0002	-0.0002		
08.2	00.0	0.013	.0053	.0129	02.44	0.000	-0.0002	-0.0002		
10.1	00.0	0.019	.0068	.0169	02.80	0.000	-0.0005	-0.0001		
$M = 1.60; R = 2.4 \times 10^6/\text{ft}$										
-03.5	00.0	-0.005	.0036	-.0060	-01.42	0.000	-0.0001	-0.0001		
-01.4	00.0	-0.002	.0033	-.0026	-00.71	0.000	-0.0001	-0.0001		
-00.5	00.0	-0.001	.0034	-.0012	-00.41	0.000	0.0000	0.0000		
00.5	00.0	0.001	.0035	.0005	00.20	0.000	0.0000	-0.0001		
01.5	00.0	0.002	.0035	.0022	00.49	0.000	0.0000	-0.0001		
02.5	00.0	0.004	.0036	.0036	01.06	0.000	0.0000	0.0000		
04.5	00.0	0.006	.0039	.0071	01.62	0.000	0.0000	-0.0001		
06.5	00.0	0.011	.0046	.0104	02.35	0.000	0.0000	-0.0001		
08.5	00.0	0.015	.0054	.0143	02.75	0.000	0.0000	-0.0001		
10.5	00.0	0.022	.0071	.0189	03.06	0.001	0.0000	-0.0001		
$M = 2.01; R = 2.4 \times 10^6/\text{ft}$										
-04.0	00.0	-0.007	.0029	-.0074	-02.48	0.000	-0.0001	0.0000		
-02.0	00.0	-0.004	.0028	-.0037	-01.29	0.000	-0.0001	0.0000		
-01.0	00.0	-0.002	.0028	-.0022	-00.75	0.000	-0.0001	0.0000		
00.0	00.0	-0.001	.0030	-.0005	-00.24	0.000	-0.0001	0.0000		
01.0	00.0	0.001	.0031	.0013	00.35	0.000	-0.0001	0.0000		
02.0	00.0	0.002	.0030	.0029	00.72	0.000	-0.0001	0.0000		
04.0	00.0	0.005	.0033	.0064	01.43	0.000	-0.0001	0.0000		
06.0	00.0	0.009	.0040	.0100	02.23	0.000	-0.0001	0.0000		
08.1	00.0	0.015	.0051	.0143	02.88	0.000	-0.0001	0.0000		
09.9	00.0	0.021	.0065	.0188	03.28	0.000	-0.0001	0.0000		

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TABLE XVII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub> - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 2.51; R = 2.5x10 <sup>6</sup> /ft										
-04.2	00.0	-0.006	.0039	-.0073	-01.62	0.000	.0000	.0002		
-02.2	00.0	-0.003	.0035	-.0037	-00.80	0.000	.0000	.0001		
-00.2	00.0	0.000	.0031	-.0003	00.00	0.000	.0000	.0001		
01.8	00.0	0.002	.0033	.0031	00.68	0.000	.0000	.0001		
03.8	00.0	0.006	.0036	.0066	01.57	0.000	.0000	.0001		
05.8	00.0	0.010	.0042	.0105	02.34	0.000	.0000	.0001		
07.8	00.0	0.016	.0052	.0148	03.08	0.001	.0000	.0001		
09.8	00.0	0.024	.0070	.0202	03.44	0.000	.0000	.0000		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.2	00.0	-0.006	.0037	-.0073	-01.71	0.000	.0000	.0001		
-02.2	00.0	-0.003	.0033	-.0037	-00.98	0.000	.0000	.0000		
-00.2	00.0	0.000	.0028	-.0002	00.00	0.000	.0000	.0001		
01.7	00.0	0.003	.0031	.0033	00.82	0.000	.0000	.0000		
03.7	00.0	0.006	.0033	.0071	01.90	0.000	.0000	.0001		
05.7	00.0	0.011	.0040	.0111	02.72	0.000	.0000	.0000		
07.8	00.0	0.018	.0052	.0158	03.40	0.001	.0000	.0001		
09.8	00.0	0.028	.0075	.0212	03.76	0.001	.0000	.0000		
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.2	00.0	-0.007	.0035	-.0075	-01.89	0.000	.0000	.0001		
-02.2	00.0	-0.003	.0031	-.0037	-01.05	0.000	.0000	.0002		
-00.2	00.0	0.000	.0027	-.0002	00.00	0.000	.0000	.0001		
01.7	00.0	0.003	.0030	.0034	00.99	0.000	.0000	.0001		
03.7	00.0	0.007	.0033	.0071	02.06	0.000	.0000	.0001		
05.7	00.0	0.012	.0037	.0113	03.16	0.000	.0000	.0001		
07.8	00.0	0.020	.0053	.0161	03.73	0.001	.0000	.0001		
09.8	00.0	0.030	.0078	.0216	03.89	0.000	.0000	.0001		

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TABLE XVIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>

(a) M = 0.25 to 0.95										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.4	00.0	-0.172	.0165	.0133	-10.43	-0.002	-.0003	-.0002		
-01.5	00.0	-0.076	.0094	.0051	-08.08	-0.001	-.0006	-.0003		
00.4	00.0	0.016	.0079	-.0031	02.00	0.000	-.0005	-.0004		
02.2	00.0	0.110	.0122	-.0116	09.08	0.001	-.0008	-.0004		
04.5	00.0	0.215	.0229	-.0202	09.41	0.001	-.0008	-.0004		
06.4	00.0	0.322	.0417	-.0285	07.72	0.001	-.0010	-.0003		
08.4	00.0	0.430	.0674	-.0363	06.38	0.002	-.0012	-.0003		
10.4	00.0	0.544	.1026	-.0403	05.30	0.002	-.0009	-.0003		
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.5	00.0	-0.187	.0169	.0176	-11.08	-0.001	-.0001	0.000		
-01.5	00.0	-0.080	.0090	.0071	-08.84	-0.001	-.0001	-.0001		
00.3	00.0	0.015	.0074	-.0030	02.06	0.000	-.0002	-.0001		
02.3	00.0	0.116	.0118	-.0138	09.85	0.000	-.0003	-.0002		
04.3	00.0	0.224	.0226	-.0243	09.93	0.001	-.0004	-.0002		
06.3	00.0	0.343	.0422	-.0354	08.11	0.002	-.0006	-.0002		
08.3	00.0	0.459	.0699	-.0462	06.57	0.003	-.0007	-.0002		
10.3	00.0	0.578	.1069	-.0555	05.40	0.003	-.0008	-.0002		
M = 0.75; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.203	.0183	.0218	-11.09	-0.001	0.000	-.0001		
-01.7	00.0	-0.089	.0095	.0093	-09.29	0.000	-.0001	-.0001		
00.4	00.0	0.013	.0075	-.0026	01.75	0.000	-.0002	-.0001		
02.3	00.0	0.116	.0121	-.0147	09.62	0.001	-.0004	-.0002		
04.2	00.0	0.229	.0229	-.0267	10.00	0.001	-.0005	-.0002		
06.3	00.0	0.353	.0438	-.0402	08.06	0.002	-.0006	-.0002		
08.3	00.0	0.519	.0785	-.0583	06.61	0.003	-.0007	-.0002		
10.4	00.0	0.611	.1142	-.0683	05.35	0.003	-.0008	-.0002		
M = 0.85; R = 2.4x10 <sup>6</sup> /ft										
-03.7	00.0	-0.219	.0194	.0280	-11.30	-0.001	-.0001	0.000		
-01.7	00.0	-0.105	.0100	.0136	-10.51	0.000	-.0001	-.0001		
00.2	00.0	0.007	.0072	-.0015	00.93	0.000	-.0002	-.0001		
02.2	00.0	0.115	.0121	-.0166	09.47	0.001	-.0003	-.0002		
04.3	00.0	0.259	.0252	-.0349	10.29	0.001	-.0005	-.0003		
06.2	00.0	0.399	.0480	-.0541	08.32	0.002	-.0007	-.0003		
08.3	00.0	0.506	.0772	-.0726	06.56	0.003	-.0007	-.0002		
10.3	00.0	0.642	.1191	-.0951	05.39	0.003	-.0008	-.0002		
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.8	00.0	-0.256	.0269	.0508	-09.51	-0.001	-.0001	0.000		
-02.0	00.0	-0.125	.0149	.0229	-08.34	0.000	-.0002	-.0001		
00.1	00.0	-0.003	.0120	.0003	-00.22	0.000	-.0003	-.0001		
02.0	00.0	0.110	.0165	-.0202	06.65	0.001	-.0004	-.0002		
04.0	00.0	0.244	.0275	-.0475	08.85	0.001	-.0005	-.0002		
06.0	00.0	0.378	.0490	-.0767	07.71	0.002	-.0005	-.0003		
08.0	00.0	0.516	.0810	-.1079	06.37	0.003	-.0005	-.0003		
09.2	00.0	0.599	.1059	-.1252	05.65	0.003	-.0006	-.0003		

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TABLE XVIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub> - Continued

(b) M = 1.00 to 2.01										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_M$	L/D	$C_Y$	$C_l$	$C_n$	$C_{N_c}$	$C_{h_c}$
M = 1.00; R = $2.4 \times 10^6$ /ft										
-03.9	00.0	-0.255	.0279	.0548	-09.15	-0.001	-0.0001	.0000		
-01.9	00.0	-0.125	.0171	.0281	-07.32	0.000	-0.0001	.0000		
00.0	00.0	-0.011	.0133	.0035	-00.80	0.000	-0.0003	.0000		
01.9	00.0	0.104	.0164	-0.0208	06.31	0.001	-0.0003	-0.0001		
03.9	00.0	0.226	.0279	-0.0460	08.11	0.002	-0.0004	-0.0002		
05.9	00.0	0.354	.0472	-0.0717	07.49	0.002	-0.0006	-0.0002		
07.9	00.0	0.478	.0756	-0.0987	06.32	0.003	-0.0005	-0.0003		
09.6	00.0	0.593	.1081	-0.1245	05.48	0.003	-0.0006	-0.0003		
M = 1.10; R = $2.4 \times 10^6$ /ft										
-03.9	00.0	-0.240	.0271	.0516	-08.87	-0.001	.0000	.0000		
-02.0	00.0	-0.124	.0157	.0258	-07.88	0.000	-0.0003	.0000		
00.0	00.0	-0.011	.0131	.0009	-00.82	0.000	.0000	-0.0001		
02.1	00.0	0.103	.0166	-0.0249	06.24	0.001	-0.0002	-0.0002		
03.9	00.0	0.219	.0263	-0.0518	08.34	0.002	-0.0006	-0.0002		
05.9	00.0	0.369	.0478	-0.0860	07.72	0.002	-0.0004	-0.0002		
07.9	00.0	0.481	.0760	-0.1023	06.32	0.003	-0.0004	-0.0003		
10.0	00.0	0.590	.1120	-0.1209	05.27	0.003	-0.0005	-0.0003		
M = 1.20; R = $2.4 \times 10^6$ /ft										
-03.8	00.0	-0.219	.0236	.0489	-09.29	-0.001	.0000	.0000		
-01.8	00.0	-0.105	.0136	.0237	-07.72	0.000	-0.0001	-0.0001		
00.2	00.0	0.003	.0105	-0.0011	00.31	0.000	-0.0003	-0.0002		
02.1	00.0	0.105	.0144	-0.0247	07.26	0.001	-0.0004	-0.0002		
04.0	00.0	0.213	.0243	-0.0489	08.76	0.001	-0.0006	-0.0003		
06.1	00.0	0.327	.0431	-0.0737	07.58	0.002	-0.0006	-0.0003		
08.0	00.0	0.441	.0695	-0.0983	06.35	0.002	-0.0006	-0.0003		
09.1	00.0	0.502	.0869	-0.1118	05.77	0.003	-0.0006	-0.0003		
M = 1.60; R = $2.4 \times 10^6$ /ft										
-03.4	00.0	-0.150	.0178	.0321	-08.43	0.000	-0.0001	.0000		
-01.5	00.0	-0.067	.0117	.0145	-05.71	0.000	-0.0002	-0.0001		
00.5	00.0	0.018	.0102	-0.0038	01.76	0.000	-0.0003	-0.0001		
02.5	00.0	0.095	.0143	-0.0205	06.66	0.001	-0.0004	-0.0001		
04.5	00.0	0.177	.0230	-0.0381	07.70	0.001	-0.0004	-0.0002		
06.5	00.0	0.264	.0382	-0.0570	06.92	0.002	-0.0005	-0.0002		
08.5	00.0	0.340	.0585	-0.0730	05.82	0.002	-0.0005	-0.0002		
10.5	00.0	0.420	.0851	-0.0889	04.93	0.003	-0.0005	-0.0003		
M = 2.01; R = $2.4 \times 10^6$ /ft										
-03.9	00.0	-0.144	.0177	.0288	-08.11	0.000	-0.0003	-0.0001		
-01.9	00.0	-0.080	.0111	.0163	-07.17	0.000	-0.0004	-0.0001		
00.0	00.0	-0.010	.0086	.0027	-01.17	0.000	-0.0005	-0.0002		
01.9	00.0	0.059	.0109	-0.0109	05.44	0.001	-0.0004	-0.0002		
04.0	00.0	0.127	.0174	-0.0241	07.28	0.001	-0.0004	-0.0002		
05.9	00.0	0.188	.0278	-0.0358	06.74	0.002	-0.0004	-0.0003		
07.9	00.0	0.259	.0440	-0.0492	05.90	0.002	-0.0004	-0.0003		
10.0	00.0	0.332	.0665	-0.0625	05.00	0.002	-0.0004	-0.0004		

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TABLE XVIII.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub> - Concluded

(c) M = 2.51 to 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 2.51; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.124	.0177	.0225	-07.03	0.000	-.0001	.0002		
-02.3	00.0	-0.066	.0109	.0121	-06.04	0.000				
-00.2	00.0	-0.006	.0081	.0009	-00.69	0.001				
01.8	00.0	0.057	.0102	-.0107	05.63	0.001				
03.9	00.0	0.116	.0162	-.0213	07.16	0.002				
06.0	00.0	0.173	.0266	-.0310	06.51	0.003				
08.0	00.0	0.229	.0408	-.0401	05.63	0.003	-.0001	-.0002		
10.1	00.0	0.283	.0586	-.0480	04.83	0.003	-.0001	-.0003		
-00.2	-02.0	-0.004	.0084	.0009	-00.53	0.002	-.0001	.0022		
-00.2	00.0	-0.005	.0082	.0008	-00.59	0.000				
-00.2	02.0	-0.005	.0085	.0010	-00.61	-0.001				
-00.2	04.0	-0.006	.0085	.0012	-00.69	-0.005				
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.105	.0158	.0176	-06.66	0.000	-.0001	.0000		
-02.3	00.0	-0.055	.0098	.0094	-05.62	0.000				
-00.2	00.0	-0.004	.0073	.0010	-00.56	0.001	-.0001	.0000		
01.7	00.0	0.048	.0091	-.0078	05.36	0.001	-.0001	.0000		
03.8	00.0	0.099	.0145	-.0162	06.86	0.002	-.0001	-.0001		
05.9	00.0	0.149	.0233	-.0238	06.37	0.002	-.0001	-.0001		
08.0	00.0	0.197	.0357	-.0305	05.52	0.003	-.0001	-.0002		
10.0	00.0	0.245	.0513	-.0359	04.77	0.003	-.0001	-.0003		
-00.2	-02.0	-0.004	.0076	.0007	-00.48	0.003	-.0001	.0025		
-00.2	00.0	-0.004	.0072	.0009	-00.50	0.000	-.0001	.0000		
-00.2	02.0	-0.004	.0075	.0010	-00.54	-0.002				
-00.2	04.0	-0.005	.0077	.0010	-00.69	-0.005				
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.088	.0138	.0128	-06.40	-0.001				
-02.2	00.0	-0.046	.0088	.0069	-05.23	0.001				
-00.2	00.0	-0.003	.0066	.0006	-00.50	0.000				
01.7	00.0	0.041	.0081	-.0058	05.06	0.001				
03.8	00.0	0.084	.0126	-.0121	06.69	0.001	-.0001	.0001		
05.9	00.0	0.128	.0206	-.0179	06.21	0.002	-.0001	.0000		
07.9	00.0	0.171	.0314	-.0227	05.45	0.002	-.0001	.0000		
09.9	00.0	0.214	.0456	-.0266	04.70	0.003	-.0002	-.0001		
-00.2	-02.0	-0.003	.0067	.0005	-00.41	0.003				
-00.2	00.0	-0.003	.0064	.0006	-00.50	0.000				
-00.2	02.0	-0.003	.0067	.0007	-00.41	-0.002				
-00.2	04.0	-0.003	.0070	.0008	-00.46	-0.006				

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TABLE XIX.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>V<sub>2</sub>

(a) M = 0.25 to 0.94										
$\alpha$ , deg	$\beta$ , deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.170	.0184	.0084	-09.25	-0.005	-0.007	.0004		
-01.5	00.0	-0.067	.0110	-.0010	-06.07	-0.004	-0.008	.0003		
00.4	00.0	0.021	.0090	-.0093	02.37	-0.002	-0.008	.0002		
02.4	00.0	0.116	.0137	-.0181	08.50	-0.001	-0.007	.0001		
04.4	00.0	0.219	.0242	-.0262	09.02	0.000	-0.011	.0000		
06.5	00.0	0.328	.0427	-.0356	07.67	-0.001	-0.013	.0000		
08.4	00.0	0.441	.0699	-.0446	06.31	0.001	-0.015	.0001		
10.4	00.0	0.543	.1024	-.0478	05.30	0.002	-0.014	.0000		
M = 0.64; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.185	.0189	.0116	-09.79	-0.002	-0.007	.0005		
-01.5	00.0	-0.079	.0109	.0007	-07.24	-0.002	-0.007	.0004		
00.3	00.0	0.019	.0088	-.0096	02.13	0.000	-0.006	.0002		
02.4	00.0	0.126	.0136	-.0215	09.20	0.001	-0.006	.0002		
04.4	00.0	0.233	.0250	-.0323	09.29	0.001	-0.008	.0001		
06.3	00.0	0.349	.0443	-.0434	07.89	0.002	-0.009	.0000		
08.4	00.0	0.472	.0737	-.0544	06.40	0.003	-0.012	.0000		
10.4	00.0	0.588	.1100	-.0633	05.35	0.004	-0.014	-.0001		
M = 0.74; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.197	.0202	.0143	-09.76	-0.002	-0.007	.0005		
-01.7	00.0	-0.087	.0115	.0023	-07.50	-0.001	-0.007	.0004		
00.3	00.0	0.021	.0092	-.0105	02.26	0.000	-0.006	.0002		
02.2	00.0	0.122	.0139	-.0228	08.76	0.000	-0.007	.0001		
04.2	00.0	0.235	.0249	-.0352	09.42	0.001	-0.008	.0001		
06.2	00.0	0.357	.0450	-.0481	07.93	0.002	-0.009	.0000		
08.2	00.0	0.481	.0738	-.0626	06.51	0.003	-0.012	.0000		
10.2	00.0	0.603	.1120	-.0755	05.39	0.004	-0.014	-.0001		
M = 0.84; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.209	.0216	.0187	-09.69	-0.002	-0.007	.0004		
-01.7	00.0	-0.090	.0119	.0029	-07.60	-0.001	-0.007	.0003		
00.2	00.0	0.017	.0091	-.0119	01.91	0.000	-0.006	.0001		
02.1	00.0	0.117	.0134	-.0250	08.76	0.001	-0.006	.0001		
04.1	00.0	0.238	.0249	-.0416	09.56	0.002	-0.009	.0000		
06.1	00.0	0.362	.0453	-.0585	07.98	0.002	-0.010	.0000		
08.1	00.0	0.504	.0769	-.0807	06.55	0.003	-0.011	-.0002		
10.2	00.0	0.631	.1166	-.1006	05.41	0.005	-0.017	-.0003		
M = 0.94; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.254	.0303	.0411	-08.38	-0.001	-0.006	.0004		
-02.1	00.0	-0.122	.0178	.0155	-06.86	-0.001	-0.006	.0002		
00.0	00.0	-0.002	.0143	-.0062	-00.15	0.000	-0.005	.0001		
01.9	00.0	0.112	.0161	-.0289	06.95	0.001	-0.006	-.0001		
03.8	00.0	0.235	.0284	-.0499	08.29	0.002	-0.007	-.0002		
05.9	00.0	0.377	.0505	-.0782	07.47	0.003	-0.008	-.0005		
07.9	00.0	0.521	.0828	-.1086	06.29	0.004	-0.009	-.0006		
09.9	00.0	0.647	.1252	-.1357	05.17	0.004	-0.011	-.0004		

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TABLE XIX.-- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>V<sub>2</sub> - Continued

(b) M = 0.99 to 1.99										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{h_c}$
$M = 0.99; R = 2.0 \times 10^6/\text{ft}$										
-04.1	00.0	-0.264	.0325	.0530	-08.12	-0.001	-0.0007	.0003		
-02.1	00.0	-0.142	.0215	.0279	-06.62	0.000	-0.0006	.0003		
-00.1	00.0	-0.016	.0162	.0016	-01.00	0.000	-0.0006	.0000		
01.9	00.0	0.097	.0191	-.0210	05.09	0.001	-0.0007	-0.0002		
03.8	00.0	0.220	.0295	-.0448	07.44	0.002	-0.0008	-0.0002		
05.8	00.0	0.350	.0504	-.0710	06.94	0.003	-0.0009	-0.0002		
07.8	00.0	0.479	.0776	-.0997	06.17	0.004	-0.0009	-0.0003		
09.8	00.0	0.609	.1170	-.1284	05.21	0.004	-0.0009	-0.0003		
$M = 1.09; R = 2.0 \times 10^6/\text{ft}$										
-04.0	00.0	-0.252	.0318	.0534	-07.94	-0.001	-0.0007	.0005		
-01.9	00.0	-0.130	.0194	.0282	-06.69	0.000	-0.0007	.0003		
00.0	00.0	-0.022	.0163	.0036	-01.34	0.000	-0.0005	.0002		
01.9	00.0	0.094	.0186	-.0208	05.05	0.000	-0.0008	.0002		
03.9	00.0	0.225	.0290	-.0551	07.73	0.001	-0.0011	.0002		
06.0	00.0	0.370	.0513	-.0818	07.21	0.002	-0.0007	.0001		
08.1	00.0	0.491	.0813	-.1033	06.04	0.003	-0.0006	-0.0001		
09.9	00.0	0.581	.1116	-.1151	05.21	0.004	-0.0009	-0.0004		
$M = 1.19; R = 2.0 \times 10^6/\text{ft}$										
-04.0	00.0	-0.237	.0283	.0546	-08.37	-0.001	-0.0005	.0003		
-02.0	00.0	-0.123	.0172	.0292	-07.14	0.000	-0.0006	.0001		
00.1	00.0	-0.010	.0130	.0029	-.00.81	0.000	-0.0007	.0000		
02.0	00.0	0.096	.0165	-.0215	05.82	0.001	-0.0008	.0000		
03.9	00.0	0.207	.0264	-.0472	07.86	0.002	-0.0009	.0000		
06.0	00.0	0.330	.0458	-.0750	07.20	0.002	-0.0008	-0.0001		
08.0	00.0	0.449	.0733	-.1008	06.12	0.003	-0.0006	-0.0001		
10.1	00.0	0.552	.1072	-.1224	05.15	0.004	-0.0006	-0.0002		
$M = 1.59; R = 2.0 \times 10^6/\text{ft}$										
-03.6	00.0	-0.158	.0213	.0353	-07.41	0.000	-0.0003	.0003		
-01.7	00.0	-0.077	.0143	.0171	-05.39	0.000	-0.0003	.0002		
00.2	00.0	0.003	.0114	.0000	00.26	0.000	-0.0004	.0002		
02.4	00.0	0.089	.0154	-.0182	05.78	0.001	-0.0005	.0001		
04.2	00.0	0.169	.0236	-.0355	07.18	0.002	-0.0005	.0001		
06.3	00.0	0.253	.0381	-.0539	06.64	0.002	-0.0005	.0000		
08.3	00.0	0.330	.0575	-.0701	05.74	0.003	-0.0007	.0000		
10.3	00.0	0.410	.0838	-.0865	04.89	0.003	-0.0006	-0.0002		
$M = 1.99; R = 2.0 \times 10^6/\text{ft}$										
-04.2	00.0	-0.149	.0209	.0313	-07.13	0.001	-0.0004	-0.0002		
-02.2	00.0	-0.083	.0135	.0184	-06.19	0.001	-0.0004	-0.0002		
-00.2	00.0	-0.016	.0102	.0047	-01.53	0.001	-0.0004	-0.0002		
01.8	00.0	0.051	.0118	-.0084	04.28	0.002	-0.0004	-0.0002		
03.6	00.0	0.111	.0168	-.0204	06.56	0.002	-0.0004	-0.0002		
05.7	00.0	0.178	.0273	-.0332	06.51	0.002	-0.0004	-0.0002		
07.7	00.0	0.238	.0413	-.0447	05.74	0.003	-0.0004	-0.0003		
09.9	00.0	0.302	.0614	-.0569	04.92	0.003	-0.0004	-0.0003		

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TABLE XIX.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>V<sub>2</sub> - Continued

(c) M = 2.51 to 3.00										
$\alpha$ , deg	$\beta$ , deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 2.51; R = 2.4x10 <sup>6</sup> /ft										
-04.3	00.0	-0.127	.0199	.0249	-06.39	0.000	.0000	.0000		
-02.2	00.0	-0.068	.0129	.0140	-05.27	0.001	-.0001	.0000		
-00.2	00.0	-0.007	.0099	.0025	-00.71	0.001	-.0001	.0000		
01.8	00.0	0.053	.0118	-.0088	04.54	0.002	.0000	-.0001		
03.9	00.0	0.111	.0176	-.0194	06.34	0.002	-.0001	-.0002		
06.0	00.0	0.169	.0276	-.0295	06.13	0.003	-.0001	-.0002		
08.0	00.0	0.226	.0417	-.0387	05.41	0.003	-.0001	-.0002		
10.1	00.0	0.280	.0593	-.0465	04.71	0.003	-.0002	-.0002		
-00.2	04.0	-0.006	.0101	.0022	-00.55	-0.029	-.0023	.0038		
-00.2	01.9	-0.004	.0102	.0022	-00.44	-0.014	-.0012	.0019		
-00.2	00.0	-0.004	.0099	.0019	-00.41	0.000	-.0001	.0000		
-00.2	-02.0	-0.004	.0102	.0018	-00.36	0.015	.0010	-.0019		
02.9	-02.0	0.082	.0141	-.0140	05.83	0.015	.0012	-.0017		
02.9	00.0	0.083	.0141	-.0143	05.89	0.001	.0000	-.0001		
02.9	02.0	0.083	.0142	-.0143	05.86	-0.013	-.0014	.0015		
02.9	04.0	0.083	.0144	-.0140	05.76	-0.026	-.0026	.0030		
06.0	04.0	0.170	.0276	-.0292	06.16	-0.025	-.0031	.0020		
06.0	02.0	0.170	.0276	-.0295	06.16	-0.011	-.0017	.0010		
06.0	00.0	0.170	.0276	-.0295	06.16	0.002	-.0001	-.0001		
06.0	-02.0	0.169	.0275	-.0293	06.14	0.015	.0014	-.0012		
10.1	-02.0	0.280	.0593	-.0465	04.72	0.016	.0018	-.0003		
10.1	00.0	0.281	.0594	-.0467	04.72	0.003	-.0002	-.0002		
10.1	02.0	0.281	.0594	-.0463	04.72	-0.010	-.0021	-.0001		
10.1	04.0	0.280	.0593	-.0456	04.72	-0.024	-.0040	.0000		
M = 3.00; R = 2.4x10 <sup>6</sup> /ft										
-04.3	00.0	-0.108	.0174	.0195	-06.17	0.001	-.0001	-.0001		
-02.2	00.0	-0.057	.0113	.0109	-05.02	0.000	-.0001	-.0001		
-00.2	00.0	-0.006	.0087	.0022	-00.66	0.001	-.0001	-.0001		
01.8	00.0	0.046	.0104	-.0066	04.40	0.001	-.0001	-.0001		
03.8	00.0	0.096	.0155	-.0150	06.20	0.002	-.0001	-.0001		
05.9	00.0	0.146	.0243	-.0226	06.00	0.002	-.0001	-.0002		
07.9	00.0	0.195	.0364	-.0295	05.35	0.003	-.0001	-.0002		
10.0	00.0	0.243	.0520	-.0351	04.67	0.003	-.0002	-.0002		
-00.2	04.0	-0.004	.0091	.0020	-00.45	-0.027	-.0021	.0025		
-00.2	01.9	-0.004	.0089	.0018	-00.41	-0.013	-.0012	.0014		
-00.2	00.0	-0.003	.0087	.0016	-00.33	0.000	-.0001	.0000		
-00.2	-02.0	-0.002	.0089	.0016	-00.22	0.014	.0010	-.0014		
02.8	-02.0	0.071	.0125	-.0107	05.67	0.014	.0008	-.0010		
02.8	00.0	0.071	.0124	-.0108	05.73	0.002	-.0001	-.0001		
02.8	02.0	0.071	.0125	-.0107	05.65	-0.012	-.0011	.0008		
02.8	04.0	0.071	.0127	-.0104	05.57	-0.025	-.0020	.0016		
05.9	04.0	0.147	.0244	-.0221	06.01	-0.024	-.0028	.0004		
05.9	02.0	0.147	.0243	-.0227	06.06	-0.011	-.0014	.0002		
05.9	00.0	0.146	.0242	-.0227	06.04	0.002	-.0001	-.0001		
05.9	-02.0	0.146	.0242	-.0226	06.01	0.014	.0012	-.0004		
10.0	-02.0	0.243	.0519	-.0349	04.67	0.015	.0017	.0005		
10.0	00.0	0.243	.0520	-.0351	04.67	0.003	-.0002	-.0003		
10.0	02.0	0.243	.0520	-.0348	04.67	-0.010	-.0021	-.0010		
10.0	04.0	0.243	.0522	-.0342	04.65	-0.024	-.0040	-.0017		

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TABLE XIX.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>V<sub>2</sub> - Concluded

(a) M = 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.090	.0153	.0146	-05.92	0.000	.0000	.0001		
-00.1	00.0	-0.004	.0078	.0017	-00.55	0.001	.0000	.0001		
01.8	00.0	0.039	.0092	-.0048	04.24	0.001	.0000	.0001		
03.8	00.0	0.082	.0135	-.0110	06.05	0.001	.0000	.0000		
05.9	00.0	0.126	.0213	-.0169	05.91	0.002	-.0001	.0000		
05.9	00.0	0.126	.0213	-.0169	05.91	0.001	-.0001	.0000		
07.9	00.0	0.169	.0321	-.0222	05.27	0.002	-.0002	.0000		
10.0	00.0	0.212	.0458	-.0262	04.62	0.002	-.0002	.0000		
-00.2	04.0	-0.003	.0081	.0017	-00.34	-0.026	-.0019	.0017		
-00.2	01.9	-0.003	.0080	.0015	-00.34	-0.013	-.0010	.0011		
-00.2	00.0	-0.002	.0077	.0014	-00.23	0.001	.0000	.0001		
-00.2	-02.0	-0.002	.0081	.0014	-00.22	0.014	.0008	-.0009		
02.8	-02.0	0.060	.0109	-.0077	05.51	0.014	.0009	-.0006		
02.8	00.0	0.060	.0109	-.0079	05.51	0.001	.0000	.0000		
02.8	02.0	0.061	.0108	-.0079	05.63	-0.012	-.0010	.0007		
02.8	04.0	0.060	.0111	-.0076	05.43	-0.024	-.0019	.0009		
05.9	04.0	0.126	.0213	-.0163	05.90	-0.024	-.0025	-.0001		
05.9	02.0	0.127	.0212	-.0170	05.99	-0.012	-.0013	.0002		
05.9	00.0	0.126	.0210	-.0170	06.00	0.002	-.0001	.0001		
05.9	-02.0	0.125	.0211	-.0168	05.95	0.015	.0010	-.0001		
10.0	-02.0	0.212	.0459	-.0260	04.61	0.015	.0018	.0007		
10.0	00.0	0.213	.0460	-.0264	04.62	0.002	-.0003	.0000		
10.0	01.9	0.213	.0460	-.0260	04.62	-0.011	-.0023	-.0008		
10.0	04.0	0.211	.0458	-.0253	04.61	-0.024	-.0043	-.0018		

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TABLE XX.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>C<sub>1</sub>V<sub>2</sub>

(a) M = 0.65 to 0.95										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	$L/D$	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 0.65; R = 2.4x10 <sup>6</sup> /ft										
-03.6	00.0	-0.185	.0199	-.0032	-09.30	-0.003	-.0004	.0008		
-01.6	00.0	-0.077	.0116	-.0044	-06.66	-0.002	-.0004	.0005		
-00.6	00.0	-0.029	.0102	-.0064	-02.91	-0.001	-.0004	.0005		
00.4	00.0	0.021	.0098	-.0074	02.13	-0.001	-.0004	.0004		
01.3	00.0	0.067	.0115	-.0082	05.87	-0.001	-.0005	.0004		
02.4	00.0	0.121	.0145	-.0085	08.32	-0.001	-.0005	.0004		
04.3	00.0	0.226	.0255	-.0080	08.86	0.000	-.0007	.0004		
06.3	00.0	0.342	.0449	-.0061	07.63	0.000	-.0007	.0005		
08.4	00.0	0.467	.0745	-.0034	06.26	0.001	-.0008	.0005		
10.3	00.0	0.586	.1111	-.0000	05.28	0.002	-.0010	.0008		
M = 0.85; R = 2.5x10 <sup>6</sup> /ft										
-03.7	00.0	-0.211	.0222	.0037	-09.51	-0.003	-.0004	.0008		
-01.7	00.0	-0.097	.0123	-.0020	-07.86	-0.002	-.0004	.0006		
-00.7	00.0	-0.041	.0107	-.0064	-03.81	-0.001	-.0004	.0005		
00.3	00.0	0.012	.0101	-.0097	01.16	-0.001	-.0004	.0004		
01.2	00.0	0.062	.0121	-.0114	05.10	-0.001	-.0004	.0003		
02.2	00.0	0.116	.0145	-.0142	08.01	0.000	-.0005	.0003		
04.2	00.0	0.232	.0267	-.0186	08.71	0.000	-.0006	.0003		
06.2	00.0	0.356	.0467	-.0209	07.62	0.001	-.0008	.0003		
08.3	00.0	0.492	.0783	-.0279	06.28	0.002	-.0007	.0005		
10.3	00.0	0.621	.1176	-.0326	05.28	0.002	-.0008	.0006		
M = 0.95; R = 2.4x10 <sup>6</sup> /ft										
-03.9	00.0	-0.266	.0324	.0306	-08.20	-0.002	-.0005	.0008		
-01.9	00.0	-0.132	.0195	.0128	-06.75	-0.002	-.0006	.0007		
-00.9	00.0	-0.075	.0196	.0070	-03.85	-0.001	-.0006	.0004		
00.0	00.0	-0.016	.0160	-.0004	-00.98	-0.001	-.0006	.0003		
01.1	00.0	0.040	.0185	-.0044	02.18	0.000	-.0005	.0001		
02.0	00.0	0.095	.0194	-.0094	04.89	0.000	-.0006	.0002		
04.0	00.0	0.215	.0305	-.0179	07.06	0.000	-.0006	.0002		
06.0	00.0	0.352	.0501	-.0312	07.03	0.001	-.0005	.0002		
08.0	00.0	0.492	.0824	-.0459	05.97	0.001	-.0006	.0004		
10.1	00.0	0.623	.1246	-.0560	05.00	0.001	-.0008	.0005		

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TABLE XX. - AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>C<sub>1</sub>V<sub>2</sub> - Continued

(b) M = 1.00 to 2.01										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 1.00; R = $2.4 \times 10^6$ /ft										
-03.9	00.0	-0.265	.0355	.0375	-07.47	-0.002	-0.0003	.0006		
-02.0	00.0	-0.144	.0224	.0215	-06.45	-0.001	-0.0005	.0005		
-00.9	00.0	-0.082	.0193	.0131	-04.23	-0.001	-0.0005	.0005		
00.0	00.0	-0.028	.0169	.0054	-01.65	-0.001	-0.0005	.0004		
01.0	00.0	0.031	.0197	-0.016	01.59	0.000	-0.0005	.0001		
02.0	00.0	0.091	.0196	-0.076	04.64	0.000	-0.0006	.0002		
03.9	00.0	0.208	.0309	-0.0186	06.72	0.000	-0.0006	.0003		
05.9	00.0	0.333	.0502	-0.0293	06.63	0.001	-0.0007	.0004		
08.0	00.0	0.464	.0798	-0.0413	05.81	0.001	-0.0006	.0005		
10.0	00.0	0.592	.1177	-0.0536	05.03	0.001	-0.0008	.0006		
M = 1.10; R = $2.5 \times 10^6$ /ft										
-03.9	00.0	-0.252	.0322	.0355	-07.80	-0.002	-0.0003	.0007		
-01.9	00.0	-0.136	.0214	.0220	-06.38	-0.002	-0.0002	.0006		
-00.8	00.0	-0.077	.0179	.0133	-04.28	-0.001	-0.0005	.0006		
00.0	00.0	-0.025	.0171	.0053	-01.45	-0.001	-0.0002	.0006		
01.2	00.0	0.035	.0180	-0.0027	01.92	-0.001	-0.0005	.0005		
02.1	00.0	0.082	.0204	-0.0068	04.03	0.000	-0.0004	.0003		
04.0	00.0	0.206	.0303	-0.0252	06.82	0.000	-0.0007	.0003		
05.9	00.0	0.348	.0500	-0.0481	06.96	0.000	-0.0006	.0006		
08.0	00.0	0.475	.0801	-0.0529	05.93	0.001	-0.0005	.0007		
09.0	00.0	0.528	.0966	-0.0532	05.47	0.000	-0.0005	.0007		
M = 1.20; R = $2.5 \times 10^6$ /ft										
-03.9	00.0	-0.233	.0287	.0395	-08.12	-0.002	-0.0003	.0005		
-01.8	00.0	-0.123	.0177	.0238	-06.93	-0.001	-0.0004	.0004		
-00.8	00.0	-0.069	.0155	.0150	-04.44	-0.001	-0.0004	.0005		
00.0	00.0	-0.017	.0143	.0064	-01.17	-0.001	-0.0005	.0004		
01.2	00.0	0.037	.0153	-0.0017	02.44	-0.001	-0.0006	.0003		
02.1	00.0	0.090	.0176	-0.0087	05.09	0.000	-0.0006	.0002		
04.1	00.0	0.201	.0277	-0.0235	07.26	0.001	-0.0007	.0002		
06.0	00.0	0.318	.0460	-0.0382	06.92	0.001	-0.0007	.0002		
08.1	00.0	0.438	.0735	-0.0515	05.96	0.001	-0.0007	.0003		
10.1	00.0	0.556	.1091	-0.0629	05.09	0.001	-0.0006	.0004		
M = 1.60; R = $2.5 \times 10^6$ /ft										
-03.4	00.0	-0.149	.0208	.0230	-07.17	-0.001	-0.0005	.0004		
-01.4	00.0	-0.068	.0143	.0127	-04.76	-0.001	-0.0005	.0004		
-00.4	00.0	-0.031	.0129	.0082	-02.39	0.000	-0.0006	.0004		
00.5	00.0	0.009	.0127	.0030	00.69	0.000	-0.0006	.0004		
01.4	00.0	0.044	.0141	-0.0010	03.11	0.000	-0.0005	.0004		
02.5	00.0	0.087	.0167	-0.0054	05.22	0.000	-0.0005	.0004		
04.5	00.0	0.171	.0255	-0.133	06.68	0.000	-0.0005	.0004		
06.5	00.0	0.254	.0403	-0.202	06.30	0.001	-0.0006	.0004		
08.5	00.0	0.338	.0616	-0.273	05.48	0.001	-0.0005	.0003		
10.5	00.0	0.416	.0878	-0.334	04.73	0.002	-0.0005	.0003		
M = 2.01; R = $2.4 \times 10^6$ /ft										
-04.0	00.0	-0.152	.0210	.0204	-07.22	0.000	-0.0005	.0000		
-01.9	00.0	-0.087	.0137	.0146	-06.30	0.000	-0.0006	.0000		
-00.9	00.0	-0.052	.0118	.0113	-04.43	0.000	-0.0006	.0000		
00.0	00.0	-0.022	.0109	.0081	-02.01	0.000	-0.0006	.0001		
01.0	00.0	0.011	.0111	.0048	01.02	0.000	-0.0006	.0001		
02.1	00.0	0.047	.0128	.0023	03.63	0.001	-0.0006	.0001		
04.0	00.0	0.112	.0189	-0.026	05.94	0.001	-0.0006	.0001		
06.0	00.0	0.179	.0296	-0.070	06.04	0.001	-0.0006	.0001		
08.1	00.0	0.244	.0448	-0.111	05.44	0.002	-0.0006	.0000		
09.9	00.0	0.308	.0642	-0.151	04.79	0.002	-0.0005	.0000		

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TABLE XX.-- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>C<sub>1</sub>V<sub>2</sub> - Continued

(c) M = 2.51 to 3.00										
$\alpha$ , deg	$\beta$ , deg	$c_L$	$c_D$	$c_m$	L/D	$c_Y$	$c_l$	$c_n$	$c_{Nc}$	$c_{hc}$
M = 2.51; R = 2.4x10 <sup>6</sup> /ft										
-04.3	00.0	-0.131	.0206	.0148	-06.35	0.001	.0000	.0000		
-02.3	00.0	-0.072	.0135	.0104	-05.31	0.001	-.0001	.0001		
-00.2	00.0	-0.008	.0105	.0050	-00.82	0.001	.0000	.0000		
01.8	00.0	0.056	.0123	.0003	04.52	0.002	-.0001	.0000		
03.9	00.0	0.118	.0188	-.0031	06.29	0.003	-.0001	-.0001		
06.1	00.0	0.180	.0298	-.0061	06.05	0.003	-.0001	-.0001		
08.1	00.0	0.241	.0452	-.0089	05.33	0.003	-.0001	-.0001		
10.2	00.0	0.300	.0648	-.0108	04.63	0.002	-.0002	.0000		
-00.2	-02.0	-0.008	.0104	.0049	-00.73	0.016	.0007	-.0017		
-00.2	00.0	-0.008	.0104	.0049	-00.80	0.001	.0000	.0000		
-00.2	01.9	-0.008	.0103	.0051	-00.80	-0.014	-.0008	.0018		
-00.2	04.0	-0.009	.0105	.0048	-00.90	-0.028	-.0016	.0035		
02.9	04.0	0.089	.0154	-.0019	05.74	-0.026	-.0030	.0022		
02.9	02.0	0.090	.0154	-.0016	05.85	-0.013	-.0016	.0011		
02.9	00.0	0.089	.0153	-.0016	05.82	0.002	.0000	-.0001		
02.9	-02.0	0.089	.0153	-.0019	05.78	0.016	.0014	-.0012		
06.0	-02.0	0.180	.0299	-.0063	06.01	0.018	.0019	-.0011		
06.1	00.0	0.182	.0303	-.0063	06.02	0.003	.0000	-.0002		
06.0	02.0	0.182	.0303	-.0064	06.01	-0.013	-.0020	.0008		
06.0	04.0	0.181	.0301	-.0067	06.01	-0.026	-.0039	.0012		
10.2	04.0	0.299	.0650	-.0110	04.61	-0.028	-.0052	.0007		
10.2	02.0	0.300	.0652	-.0111	04.61	-0.014	-.0029	.0009		
10.2	00.0	0.301	.0653	-.0113	04.61	0.003	-.0002	-.0002		
10.2	-02.0	0.301	.0652	-.0113	04.61	0.020	.0026	-.0011		
M = 3.00; R = 2.5x10 <sup>6</sup> /ft										
-04.4	00.0	-0.112	.0183	.0113	-06.13	0.001	-.0001	.0000		
-02.3	00.0	-0.059	.0118	.0081	-05.01	0.001	-.0001	.0000		
-00.2	00.0	-0.006	.0091	.0046	-00.64	0.001	-.0001	.0000		
01.8	00.0	0.048	.0109	.0017	04.40	0.002	-.0001	-.0001		
03.9	00.0	0.103	.0166	-.0008	06.24	0.002	-.0001	-.0001		
05.9	00.0	0.157	.0261	-.0026	06.01	0.003	-.0001	-.0001		
08.0	00.0	0.208	.0393	-.0040	05.30	0.003	-.0002	-.0001		
10.1	00.0	0.259	.0561	-.0050	04.62	0.003	-.0002	-.0002		
-00.2	-02.0	-0.006	.0093	.0046	-00.63	0.015	.0007	-.0012		
-00.2	00.0	-0.005	.0092	.0047	-00.60	0.001	-.0001	.0000		
-00.2	02.0	-0.007	.0092	.0046	-00.73	-0.013	-.0008	.0012		
-00.2	04.0	-0.007	.0094	.0045	-00.76	-0.027	-.0016	.0021		
02.8	-00.7	0.036	.0048	.0001	07.56	0.007	.0004	-.0003		
02.8	00.0	0.078	.0135	.0007	05.73	0.002	-.0001	-.0001		
02.8	02.0	0.078	.0136	.0005	05.73	-0.011	-.0011	.0004		
02.8	04.0	0.076	.0136	.0004	05.60	-0.024	-.0023	.0008		
06.0	04.0	0.156	.0264	-.0026	05.91	-0.025	-.0033	-.0002		
06.0	02.0	0.158	.0266	-.0026	05.97	-0.012	-.0017	.0001		
06.0	00.0	0.158	.0264	-.0027	05.98	0.003	-.0001	-.0002		
06.0	-02.0	0.157	.0264	-.0027	05.94	0.017	.0015	-.0004		
10.1	-02.0	0.259	.0566	-.0048	04.58	0.018	.0021	-.0002		
10.1	00.0	0.260	.0567	-.0049	04.59	0.004	-.0001	-.0002		
10.1	02.0	0.259	.0567	-.0048	04.58	-0.012	-.0024	.0001		
10.1	04.0	0.259	.0568	-.0046	04.57	-0.025	-.0046	-.0009		

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TABLE XX.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>1</sub>C<sub>1</sub>V<sub>2</sub> - Concluded

(a) M = 3.50										
$\alpha$ , deg	$\beta$ , deg	$C_L$	$C_D$	$C_m$	L/D	$C_Y$	$C_l$	$C_n$	$C_{Nc}$	$C_{hc}$
M = 3.50; R = 2.5x10 <sup>6</sup> /ft										
-04.3	00.0	-0.093	.0164	.0074	-05.71	0.000	.0000	.0000		
-02.3	00.0	-0.049	.0108	.0059	-04.55	0.001	.0000	.0002		
-00.2	00.0	-0.004	.0085	.0041	-00.41	0.001	-0.0001	.0001		
01.8	00.0	0.043	.0098	.0028	04.34	0.001	.0000	.0001		
03.8	00.0	0.089	.0148	.0016	06.05	0.002	-0.0001	.0001		
05.9	00.0	0.136	.0232	.0007	05.87	0.002	-0.0001	.0001		
08.0	00.0	0.181	.0348	.0001	05.21	0.002	-0.0002	.0001		
10.0	00.0	0.227	.0497	.0001	04.57	0.003	-0.0003	.0001		
-00.2	-02.0	-0.003	.0083	.0041	-00.36	0.015	.0006	-0.0007		
-00.2	-02.0	-0.004	.0083	.0041	-00.47	0.015	.0006	-0.0007		
-00.2	00.0	-0.004	.0081	.0041	-00.48	0.001	-0.0001	.0001		
-00.2	02.0	-0.004	.0081	.0042	-00.54	-0.013	-0.0008	.0010		
00.2	04.0	-0.005	.0082	.0041	-00.59	-0.026	-0.0014	.0014		
02.9	-02.0	0.067	.0120	.0015	05.52	0.014	.0010	-0.0002		
02.9	00.0	0.068	.0119	.0015	05.68	0.002	-0.0001	.0001		
02.9	01.9	0.067	.0119	.0016	05.62	-0.011	-0.0010	.0004		
02.9	04.0	0.066	.0121	.0015	05.49	-0.024	-0.0021	.0003		
05.9	04.0	0.136	.0231	.0001	05.87	-0.024	-0.0027	-0.0006		
06.0	02.0	0.137	.0232	.0001	05.88	-0.011	-0.0014	.0000		
05.9	00.0	0.138	.0233	-0.0001	05.92	0.002	-0.0001	.0001		
05.9	-02.0	0.136	.0231	.0001	05.89	0.016	.0011	.0002		
10.1	-02.0	0.227	.0499	-0.0004	04.55	0.016	.0020	.0005		
10.1	00.0	0.227	.0499	-0.0007	04.56	0.003	-0.0002	.0000		
10.1	02.0	0.227	.0498	-0.0005	04.55	-0.010	-0.0025	-0.0004		
10.1	04.0	0.226	.0499	-0.0004	04.54	-0.022	-0.0047	-0.0017		

TABLE XXI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>2</sub>C<sub>1</sub>V<sub>2</sub>; δ<sub>c</sub> = 0°

(a) M = 0.25 to 0.94										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	g <sub>h</sub> <sub>c</sub>
M = 0.25; R = 2.0x10 <sup>6</sup> /ft										
-03.5	00.0	-0.152	.0195	-.0128	-07.80	-0.006	-.0004	.0007		
-01.6	00.0	-0.069	.0134	-.0066	-05.14	-0.005	-.0003	.0006		
00.4	00.0	0.019	.0122	-.0045	01.59	-0.003	-.0003	.0004		
02.4	00.0	0.102	.0158	-.0013	06.44	-0.002	-.0003	.0003		
04.4	00.0	0.196	.0249	.0036	07.86	-0.002	-.0004	.0003		
06.4	00.0	0.302	.0419	.0084	07.20	-0.002	-.0006	.0002		
08.4	00.0	0.413	.0669	.0161	06.17	0.000	-.0006	.0000		
10.4	00.0	0.529	.1010	.0250	05.23	0.000	-.0008	.0001		
M = 0.64; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.168	.0200	-.0115	-08.39	-0.002	-.0001	.0008		
-01.5	00.0	-0.074	.0128	-.0072	-05.78	-0.002	-.0001	.0007		
00.3	00.0	0.019	.0110	-.0055	01.71	-0.001	-.0001	.0005		
02.5	00.0	0.116	.0158	-.0027	07.38	-0.001	-.0001	.0005		
04.4	00.0	0.213	.0252	.0016	08.46	0.000	-.0002	.0004		
06.4	00.0	0.328	.0437	.0054	07.51	0.001	-.0004	.0003		
08.4	00.0	0.452	.0719	.0102	06.29	0.001	-.0005	.0002		
10.4	00.0	0.573	.1080	.0157	05.30	0.002	-.0005	.0003		
M = 0.74; R = 2.0x10 <sup>6</sup> /ft										
-03.7	00.0	-0.177	.0211	-.0092	-08.38	-0.002	-.0000	.0007		
-01.7	00.0	-0.082	.0132	-.0062	-06.24	-0.002	-.0001	.0006		
00.2	00.0	0.015	.0112	-.0055	01.33	-0.001	-.0000	.0005		
02.2	00.0	0.110	.0151	-.0039	07.27	0.000	-.0001	.0004		
04.2	00.0	0.215	.0253	-.0012	08.49	0.000	-.0002	.0003		
06.2	00.0	0.335	.0438	.0017	07.66	0.001	-.0004	.0002		
08.3	00.0	0.461	.0728	.0042	06.34	0.002	-.0005	.0001		
10.2	00.0	0.586	.1095	.0076	05.35	0.003	-.0007	.0001		
M = 0.84; R = 2.0x10 <sup>6</sup> /ft										
-03.8	00.0	-0.189	.0222	-.0071	-08.49	-0.002	-.0001	.0007		
-01.8	00.0	-0.090	.0139	-.0052	-06.50	-0.001	-.0001	.0005		
00.2	00.0	0.010	.0111	-.0059	00.86	-0.001	-.0000	.0004		
02.2	00.0	0.106	.0151	-.0061	07.00	0.000	-.0001	.0004		
04.1	00.0	0.212	.0246	-.0053	08.62	0.000	-.0002	.0003		
06.1	00.0	0.334	.0433	-.0043	07.70	0.001	-.0003	.0001		
08.1	00.0	0.465	.0723	-.0043	06.44	0.002	-.0005	.0001		
10.2	00.0	0.596	.1108	-.0037	05.38	0.002	-.0007	.0001		
M = 0.94; R = 2.0x10 <sup>6</sup> /ft										
-04.1	00.0	-0.225	.0299	.0073	-07.52	-0.001	-.0002	.0004		
-02.1	00.0	-0.107	.0179	.0017	-05.96	0.000	-.0002	.0002		
00.0	00.0	-0.009	.0163	-.0017	-00.57	0.001	-.0002	.0000		
01.8	00.0	0.094	.0188	-.0065	05.00	0.001	-.0001	.0000		
03.9	00.0	0.221	.0279	-.0161	07.92	0.000	-.0001	.0002		
05.9	00.0	0.356	.0491	-.0232	07.24	0.002	-.0001	-.0001		
08.0	00.0	0.499	.0816	-.0374	06.12	0.002	-.0003	-.0002		
09.9	00.0	0.631	.1233	-.0481	05.12	0.002	-.0005	-.0001		

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TABLE XXI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>2</sub>C<sub>1</sub>V<sub>2</sub>; δ<sub>c</sub> = 0° - Continued

(b) M = 0.99 to 2.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>h<sub>c</sub></sub>
M = 0.99; R = 2.0x10 <sup>6</sup> /ft										
-04.1	00.0	-0.234	.0321	.0183	-07.31	0.000	-0.0002	.0002		
-02.1	00.0	-0.124	.0213	.0112	-05.84	0.000	-0.0002	.0001		
-00.1	00.0	-0.018	.0193	.0035	-00.94	0.001	-0.0002	.0000		
01.9	00.0	0.091	.0216	-.0049	04.21	0.001	-0.0002	.0000		
03.8	00.0	0.208	.0308	-.0133	06.77	0.002	-0.0002	.0000		
05.8	00.0	0.340	.0499	-.0244	06.81	0.002	-0.0001	-.0001		
07.9	00.0	0.480	.0803	-.0373	05.97	0.002	-0.0003	-.0001		
09.9	00.0	0.609	.1197	-.0482	05.09	0.002	-0.0004	-.0001		
M = 1.09; R = 2.0x10 <sup>6</sup> /ft										
-04.0	00.0	-0.227	.0337	.0222	-06.73	0.000	-0.0001	.0003		
-02.0	00.0	-0.121	.0214	.0129	-05.63	0.000	-0.0003	.0003		
00.0	00.0	-0.016	.0183	.0032	-00.90	0.000	-0.0002	.0002		
02.0	00.0	0.091	.0206	-.0083	04.41	0.001	-0.0004	.0001		
03.9	00.0	0.215	.0297	-.0266	07.25	0.001	-0.0002	.0002		
06.1	00.0	0.359	.0515	-.0397	06.97	0.000	.0000	.0003		
08.2	00.0	0.486	.0825	-.0446	05.89	0.001	-0.0001	.0001		
10.0	00.0	0.599	.1184	-.0468	05.06	0.001	-0.0003	.0000		
M = 1.19; R = 2.0x10 <sup>6</sup> /ft										
-03.9	00.0	-0.212	.0287	.0270	-07.40	0.000	-0.0002	.0002		
-02.0	00.0	-0.111	.0188	.0166	-05.92	0.000	-0.0004	.0001		
00.0	00.0	-0.013	.0148	.0031	-00.84	0.001	-0.0003	.0000		
02.0	00.0	0.090	.0180	-.0090	05.02	0.001	-0.0003	-.0001		
03.9	00.0	0.200	.0274	-.0215	07.28	0.002	-0.0002	-.0002		
06.1	00.0	0.328	.0471	-.0354	06.96	0.001	.0000	-.0002		
08.0	00.0	0.450	.0747	-.0478	06.02	0.001	.0000	.0000		
10.0	00.0	0.578	.1127	-.0628	05.12	0.001	-0.0002	.0000		
M = 1.59; R = 2.0x10 <sup>6</sup> /ft										
-03.6	00.0	-0.148	.0225	.0181	-06.59	0.000	.0000	.0005		
-01.7	00.0	-0.074	.0157	.0121	-04.70	0.000	.0001	.0004		
00.3	00.0	0.003	.0134	.0045	00.20	0.000	.0000	.0003		
02.4	00.0	0.084	.0170	-.0036	04.96	0.000	-.0001	.0002		
04.2	00.0	0.157	.0246	-.0095	06.38	0.001	-0.0002	.0001		
06.3	00.0	0.245	.0394	-.0166	06.23	0.001	-0.0003	.0000		
08.4	00.0	0.333	.0608	-.0246	05.49	0.002	-0.0003	-.0001		
10.4	00.0	0.416	.0874	-.0320	04.76	0.002	-0.0004	-.0002		
M = 2.00; R = 2.0x10 <sup>6</sup> /ft										
-04.3	00.0	-0.142	.0220	.0146	-06.44	0.002	-0.0001	-.0001		
-02.3	00.0	-0.080	.0148	.0106	-05.41	0.002	-0.0001	-.0001		
-00.2	00.0	-0.017	.0117	.0055	-01.48	0.001	-0.0001	-.0001		
01.7	00.0	0.049	.0134	.0014	03.66	0.002	-0.0001	-.0001		
03.7	00.0	0.114	.0192	-.0020	05.95	0.002	-0.0001	-.0001		
05.7	00.0	0.180	.0296	-.0058	06.10	0.002	-0.0001	-.0002		
07.7	00.0	0.248	.0448	-.0104	05.54	0.003	-0.0001	-.0003		
09.8	00.0	0.318	.0662	-.0158	04.81	0.002	-0.0002	-.0005		

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TABLE XXI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>2</sub>C<sub>1</sub>V<sub>2</sub>; δ<sub>c</sub> = 0° - Continued

(c) M = 2.51 to 3.00										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>I</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hC</sub>
M = 2.51; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.124	.0203	.0098	-06.09	0.000	.0002	.0000		
-02.3	00.0	-0.066	.0134	.0075	-04.94	0.001	.0002	.0000		
-00.1	00.0	-0.007	.0108	.0039	-00.63	0.001	.0003	.0000		
01.9	00.0	0.055	.0128	.0010	04.34	0.001	.0003	.0000		
04.0	00.0	0.116	.0190	-.0016	06.10	0.002	.0003	.0000		
06.1	00.0	0.178	.0300	-.0041	05.92	0.002	.0003	.0001		
08.2	00.0	0.238	.0454	-.0064	05.24	0.002	.0003	.0000		
10.3	00.0	0.298	.0651	-.0086	04.57	0.002	.0003	.0001		
-00.2	-02.0	-0.005	.0107	.0039	-00.49	0.017	.0005	-.0023		
-00.2	00.0	-0.005	.0108	.0039	-00.49	0.000	.0003	.0001		
-00.2	01.9	-0.006	.0109	.0039	-00.52	-0.016	.0000	.0025		
-00.2	04.0	-0.006	.0109	.0036	-00.59	-0.033	-.0003	.0049		
02.9	-02.0	0.085	.0153	-.0003	05.55	0.017	.0010	-.0017		
02.9	00.0	0.087	.0153	-.0004	05.65	0.001	.0003	.0000		
02.9	01.9	0.086	.0153	-.0006	05.63	-0.015	-.0005	.0018		
02.9	04.0	0.085	.0155	-.0007	05.50	-0.031	-.0012	.0035		
06.1	-02.0	0.176	.0300	-.0039	05.88	0.019	.0014	-.0012		
06.1	00.0	0.178	.0301	-.0040	05.92	0.002	.0003	.0001		
06.1	02.0	0.179	.0302	-.0041	05.92	-0.015	-.0009	.0014		
06.1	04.0	0.177	.0301	-.0044	05.88	-0.031	-.0019	.0023		
10.3	-02.0	0.297	.0650	-.0086	04.57	0.020	.0020	-.0012		
10.3	00.0	0.298	.0652	-.0086	04.57	0.002	.0002	.0000		
10.3	02.0	0.297	.0650	-.0086	04.57	-0.017	-.0014	.0012		
10.3	04.0	0.297	.0650	-.0086	04.57	-0.032	-.0028	.0013		
M = 3.00; R = 2.4×10 <sup>6</sup> /ft										
10.1	00.0	0.259	.0568	-.0037	04.56	0.002	.0002	.0000		
08.1	00.0	0.208	.0398	-.0027	05.23	0.002	.0002	.0000		
06.0	00.0	0.156	.0264	-.0016	05.88	0.002	.0003	.0000		
03.9	00.0	0.103	.0170	-.0001	06.08	0.001	.0003	.0000		
01.8	00.0	0.050	.0111	.0019	04.45	0.001	.0002	.0000		
-00.2	00.0	-0.003	.0094	.0037	-00.37	0.001	.0002	.0000		
-02.3	00.0	-0.055	.0118	.0055	-04.67	0.000	.0002	.0000		
-04.3	00.0	-0.105	.0180	.0066	-05.83	0.001	.0002	-.0001		
-00.2	-02.0	-0.004	.0095	.0035	-00.45	0.016	.0006	-.0018		
-00.2	00.0	-0.004	.0094	.0036	-00.42	0.000	.0002	.0000		
-00.2	01.9	-0.004	.0095	.0035	-00.45	-0.015	-.0001	.0018		
-00.2	04.0	-0.004	.0097	.0032	-00.45	-0.031	-.0005	.0034		
02.8	-02.0	0.074	.0136	.0008	05.45	0.017	.0004	-.0013		
02.9	00.0	0.076	.0136	.0008	05.58	0.002	.0003	.0000		
02.8	02.0	0.076	.0136	.0008	05.55	-0.015	.0000	.0013		
02.8	04.0	0.075	.0136	.0008	05.49	-0.030	-.0004	.0023		
06.0	-02.0	0.154	.0264	-.0015	05.84	0.019	.0009	-.0008		
06.0	00.0	0.156	.0265	-.0017	05.88	0.002	.0003	.0000		
06.0	02.0	0.155	.0266	-.0016	05.85	-0.015	-.0004	.0008		
06.0	04.0	0.154	.0264	-.0015	05.83	-0.030	-.0011	.0011		
10.1	-02.0	0.258	.0568	-.0035	04.55	0.019	.0014	-.0004		
10.1	00.0	0.259	.0568	-.0037	04.56	0.002	.0003	.0001		
10.1	02.0	0.259	.0569	-.0036	04.55	-0.015	-.0009	.0003		
10.1	04.0	0.258	.0567	-.0034	04.54	-0.030	-.0021	-.0001		

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TABLE XXI.- AERODYNAMIC CHARACTERISTICS OF CONFIGURATION F<sub>2</sub>W<sub>2</sub>C<sub>1</sub>V<sub>2</sub>; δ<sub>c</sub> = 0° - Concluded

(a) M = 3.50										
α, deg	β, deg	C <sub>L</sub>	C <sub>D</sub>	C <sub>m</sub>	L/D	C <sub>Y</sub>	C <sub>l</sub>	C <sub>n</sub>	C <sub>Nc</sub>	C <sub>hc</sub>
M = 3.50; R = 2.5×10 <sup>6</sup> /ft										
-04.3	00.0	-0.089	.0161	.0038	-05.53	0.000	.0003	.0001		
-02.2	00.0	-0.046	.0109	.0035	-04.25	0.000	.0003	.0001		
-00.2	00.0	-0.002	.0089	.0028	-00.26	0.001	.0003	.0001		
01.8	00.0	0.042	.0102	.0024	04.11	0.001	.0003	.0001		
03.9	00.0	0.088	.0151	.0018	05.80	0.001	.0003	.0001		
05.9	00.0	0.134	.0235	.0011	05.72	0.001	.0002	.0001		
08.0	00.0	0.180	.0350	.0006	05.12	0.002	.0002	.0002		
10.1	00.0	0.226	.0502	.0002	04.50	0.002	.0002	.0000		
A 6 0 0	-00.2	-02.0	-0.002	.0086	.0030	-00.25	0.016	.0007	-0.0012	
	-00.2	00.0	-0.002	.0084	.0031	-00.20	0.001	.0003	.0001	
	-00.2	01.9	-0.002	.0084	.0030	-00.26	-0.014	-0.0002	.0014	
	-00.2	04.0	-0.002	.0087	.0028	-00.25	-0.029	-0.0006	.0023	
	02.8	-02.0	0.065	.0120	.0024	05.42	0.016	.0005	-0.0008	
	02.8	00.0	0.065	.0119	.0023	05.50	0.001	.0002	.0001	
	02.8	02.0	0.065	.0119	.0021	05.47	-0.014	.0000	.0010	
	02.8	04.0	0.065	.0121	.0019	05.38	-0.029	-0.0004	.0015	
	05.9	-02.0	0.133	.0231	.0013	05.77	0.017	.0005	-0.0004	
	05.9	00.0	0.135	.0233	.0013	05.80	0.001	.0002	.0001	
	05.9	02.0	0.134	.0233	.0012	05.76	-0.015	-0.0001	.0007	
	05.9	04.0	0.133	.0232	.0012	05.75	-0.030	-0.0006	.0006	
	10.1	-02.0	0.225	.0501	.0006	04.49	0.017	.0014	.0002	
	10.1	00.0	0.226	.0502	.0003	04.50	0.002	.0002	.0001	
	10.1	02.0	0.226	.0502	.0006	04.50	-0.014	-0.0010	-0.0001	
	10.0	04.0	0.225	.0501	.0008	04.49	-0.028	-0.0021	-0.0009	

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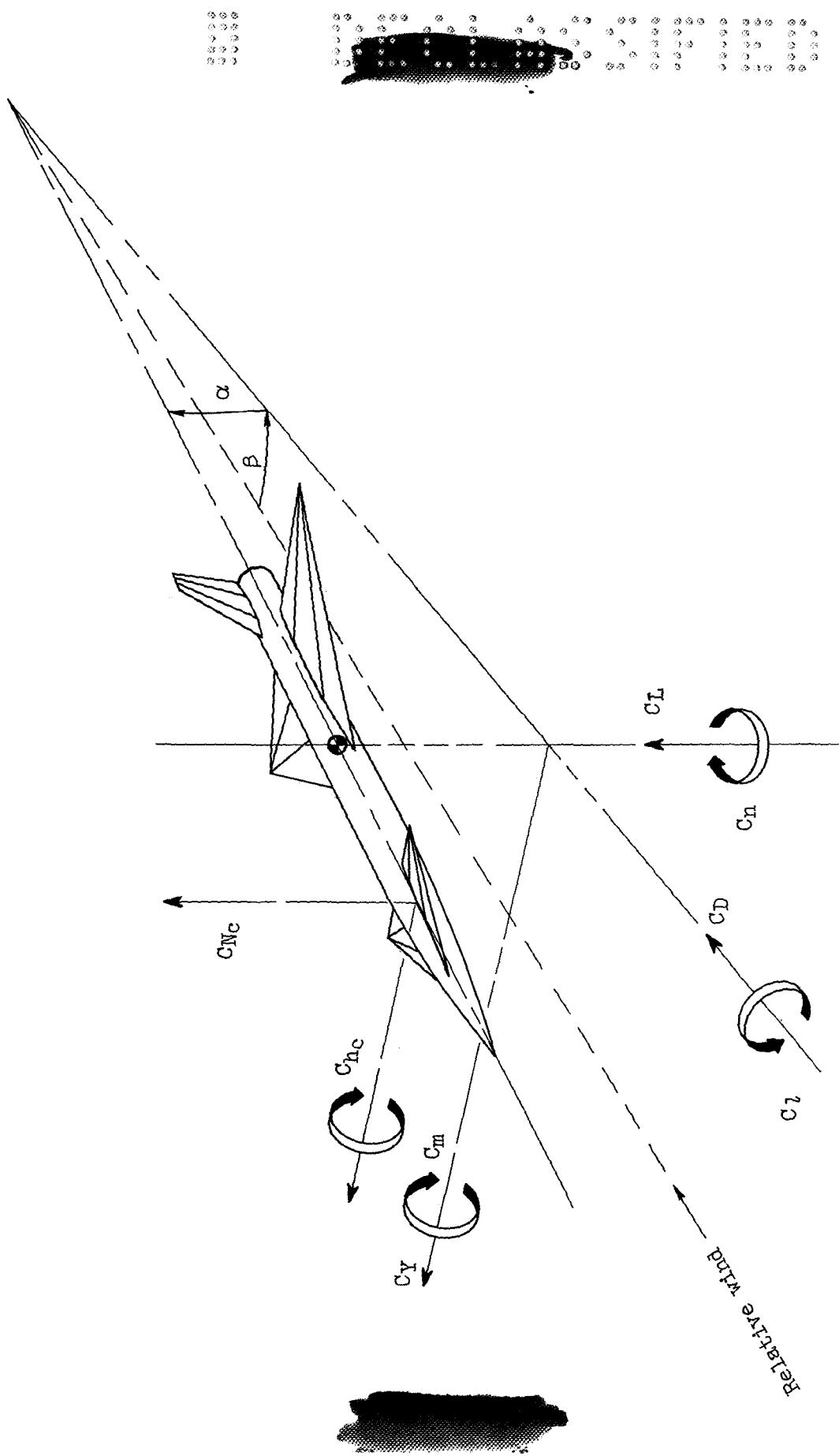
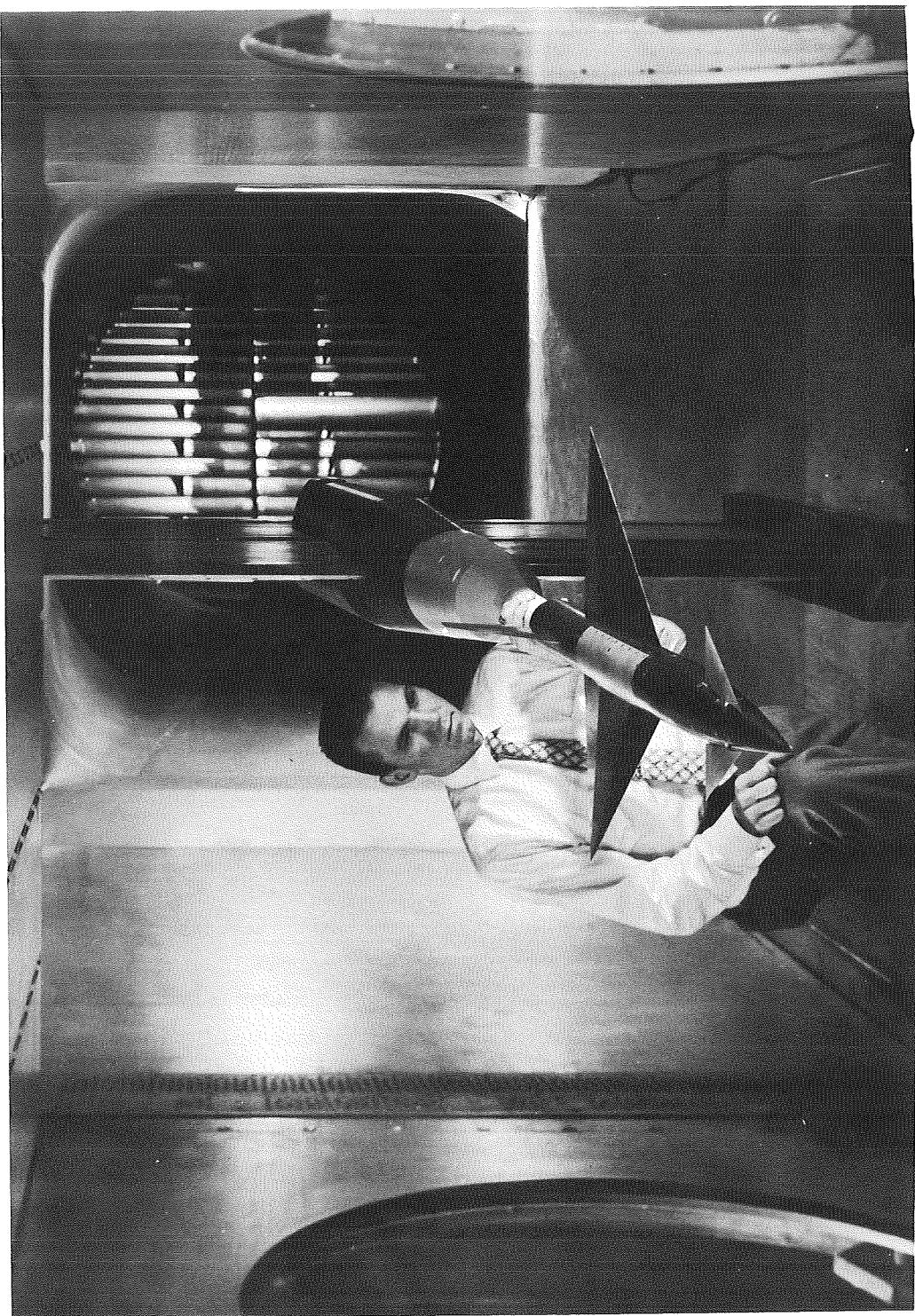
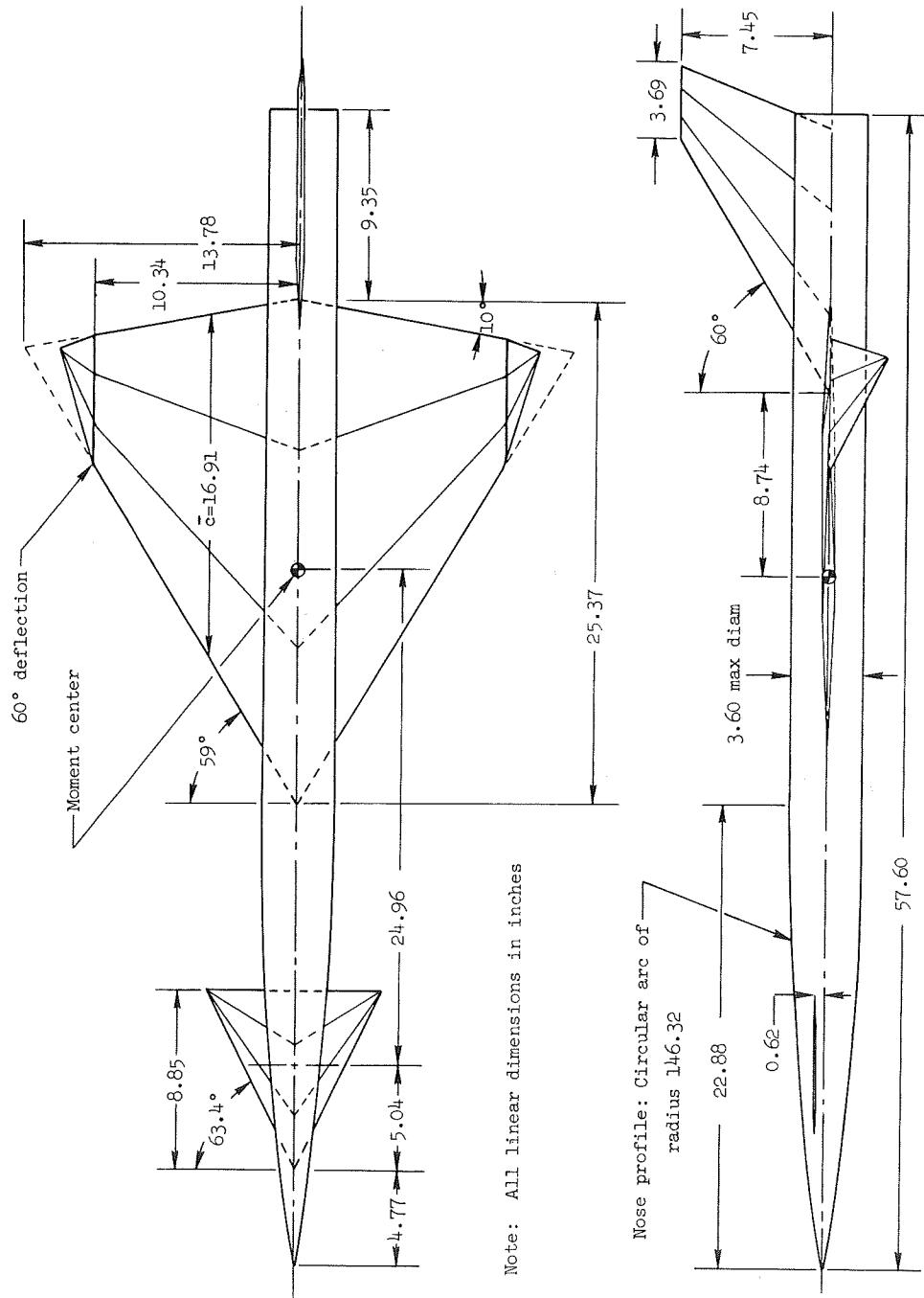


Figure 1.- The stability system of axes with arrows indicating positive directions of forces and moments.



(a) Photograph of model with undeflected wing tips in the Ames 6- by 6-Foot Wind Tunnel.  
Figure 2.- Model description and dimensions.

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(b) Dimensional sketch of single vertical-tail configuration ( $F_1W_1C_1V_1$ ) showing deflected wing tips ( $F_1W_2C_1V_1$ ).

Figure 2.- Continued.

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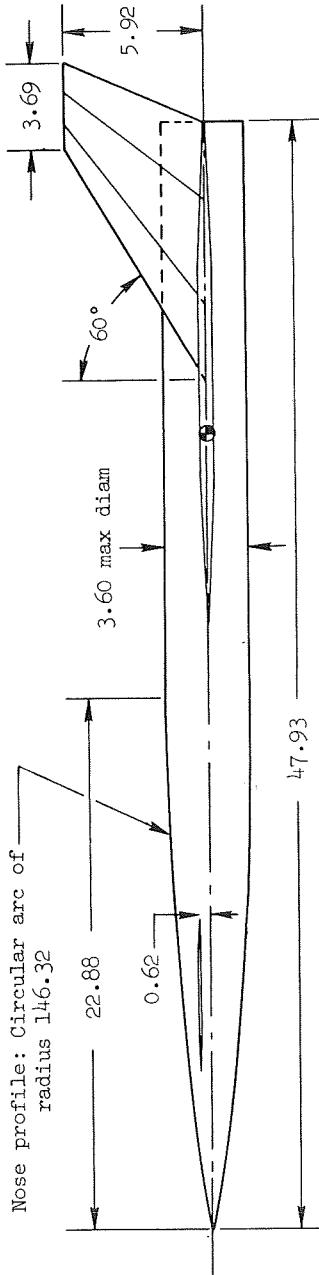
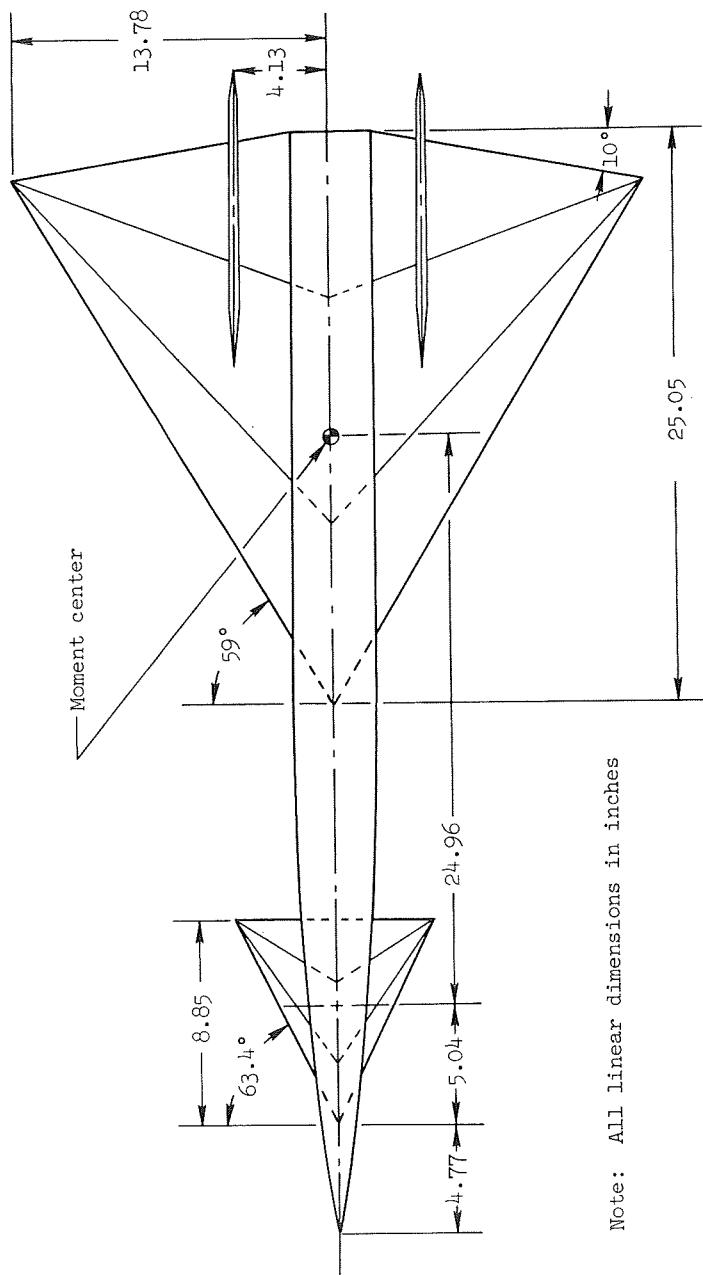
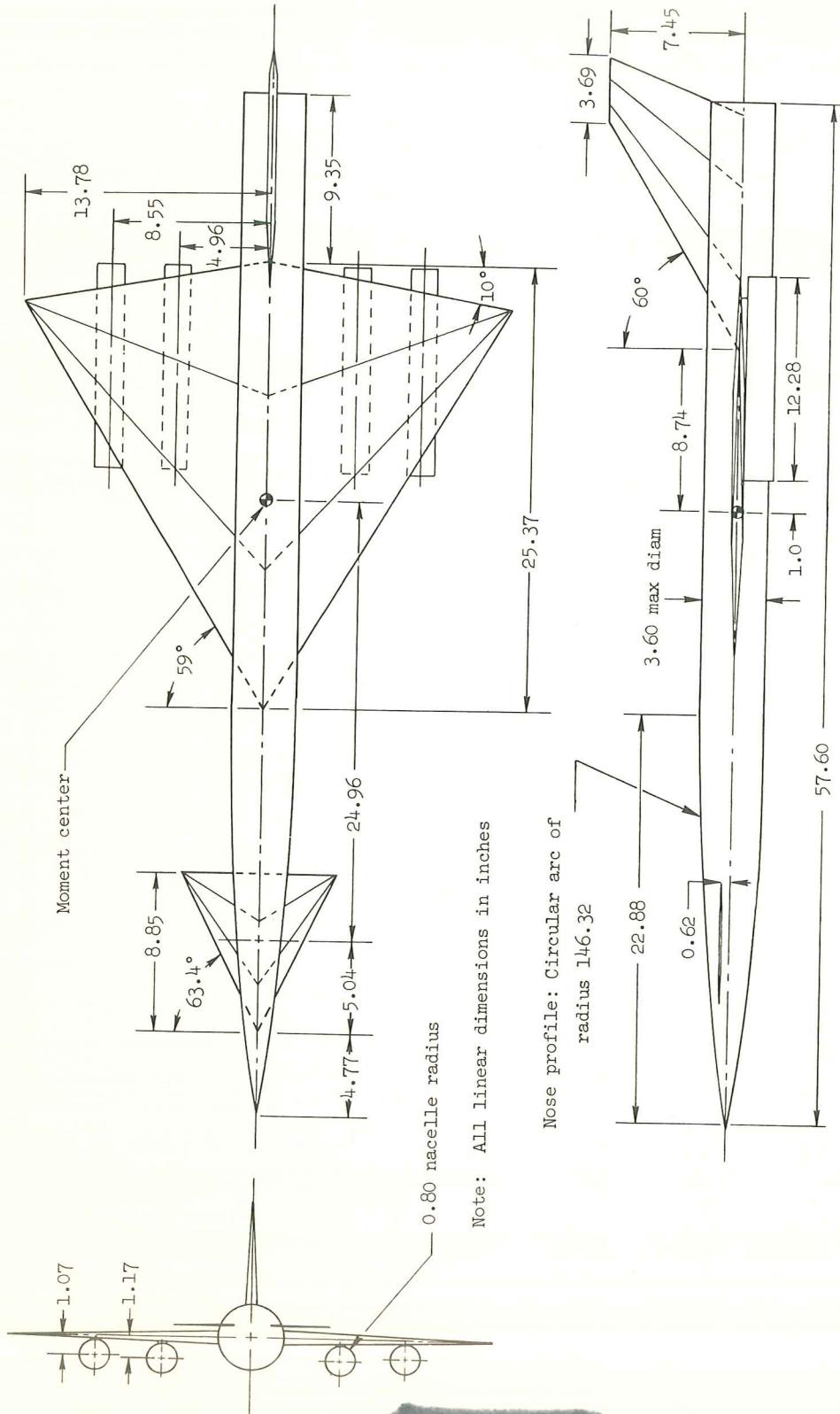
(c) Dimensional sketch of twin-tail configuration ( $F_2W_1C_1V_2$ ).

Figure 2.- Continued.



(d) Dimensional sketch of single vertical-tail configuration with pylon mounted nacelles (F1W1C1V1+N).

Figure 2.- Concluded.

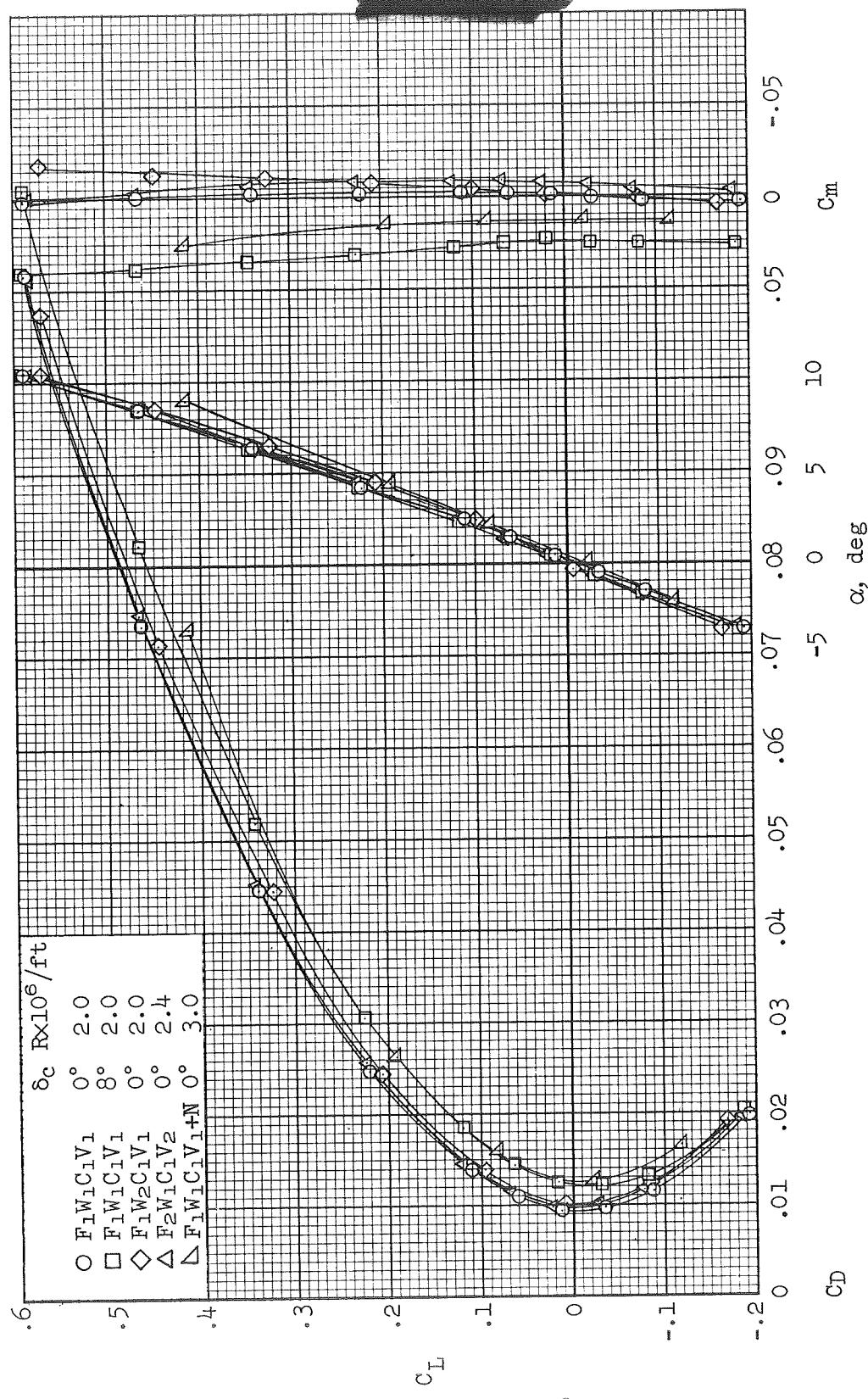
(a)  $M = 0.65$ 

Figure 3.- Longitudinal characteristics for various model configurations.

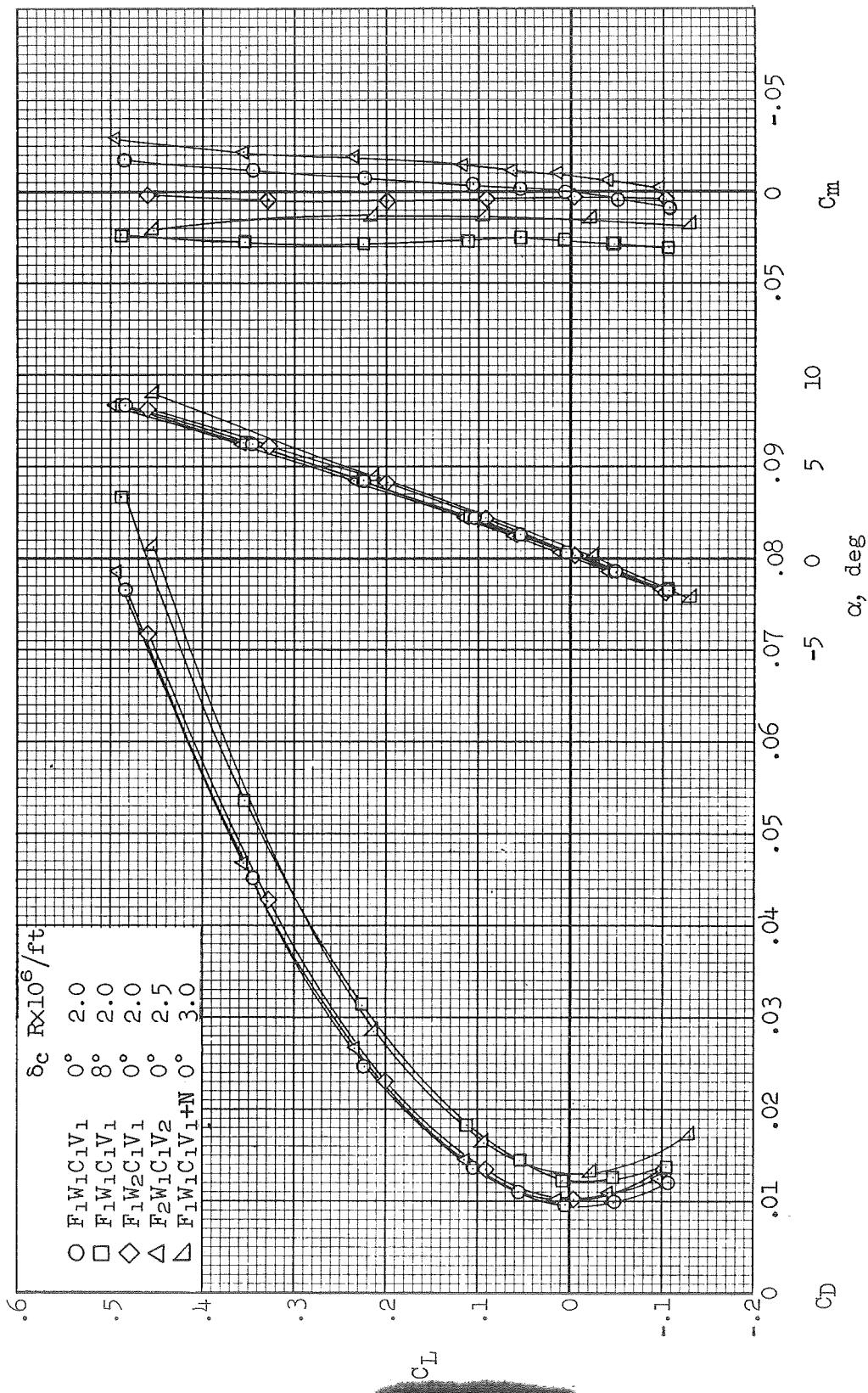
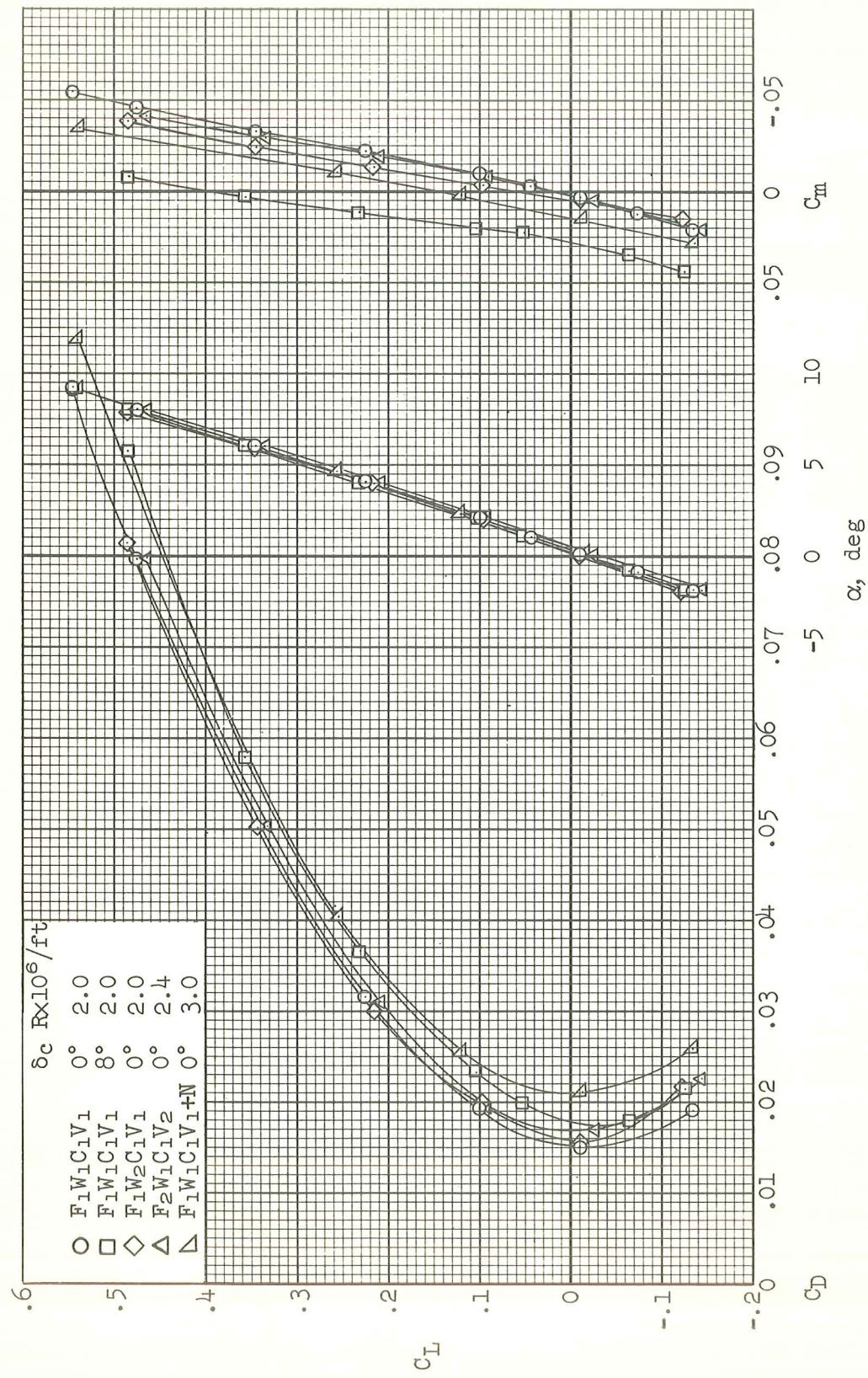


Figure 3.- Continued.  
(b)  $M = 0.85$

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Figure 3.- Continued.

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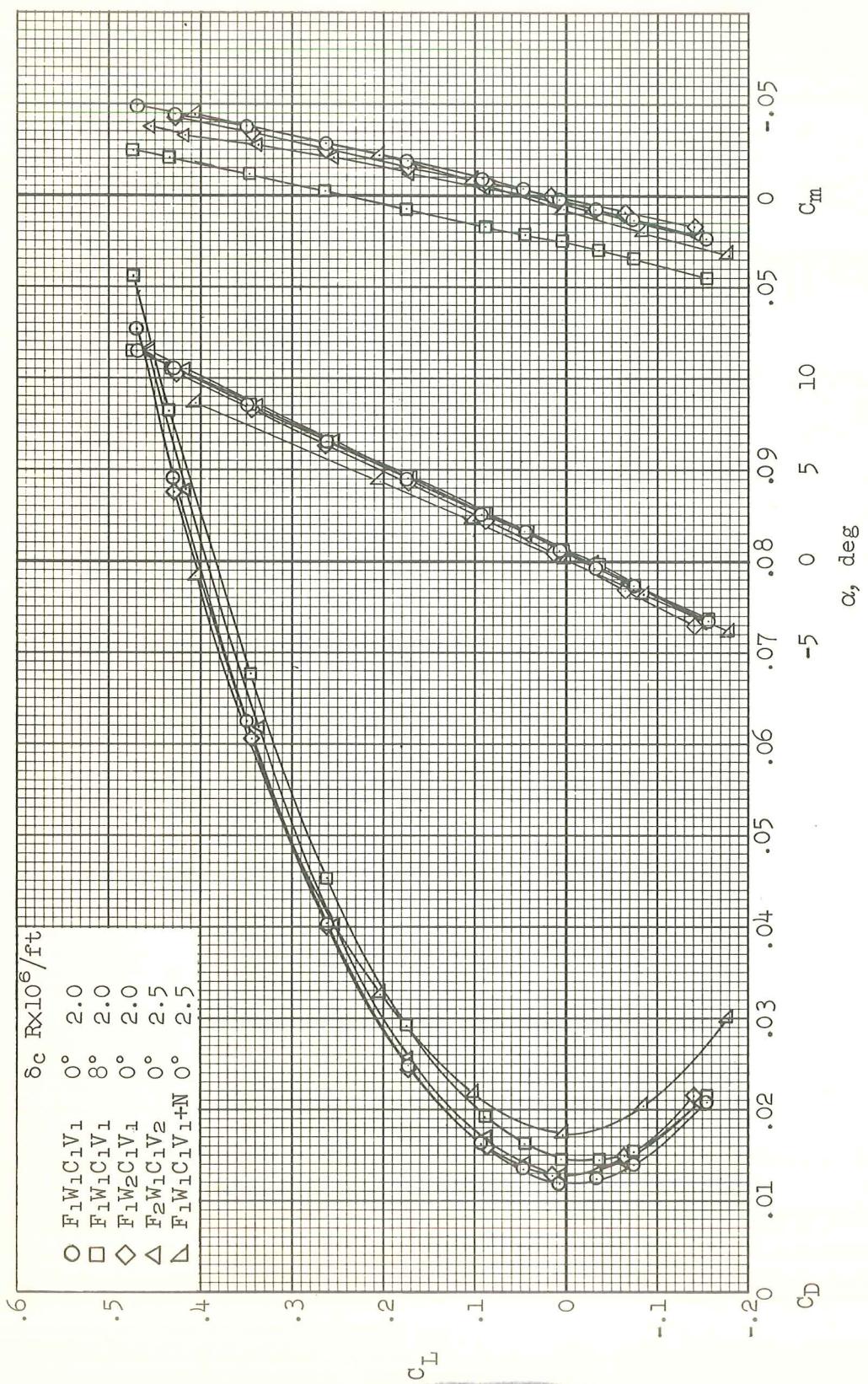
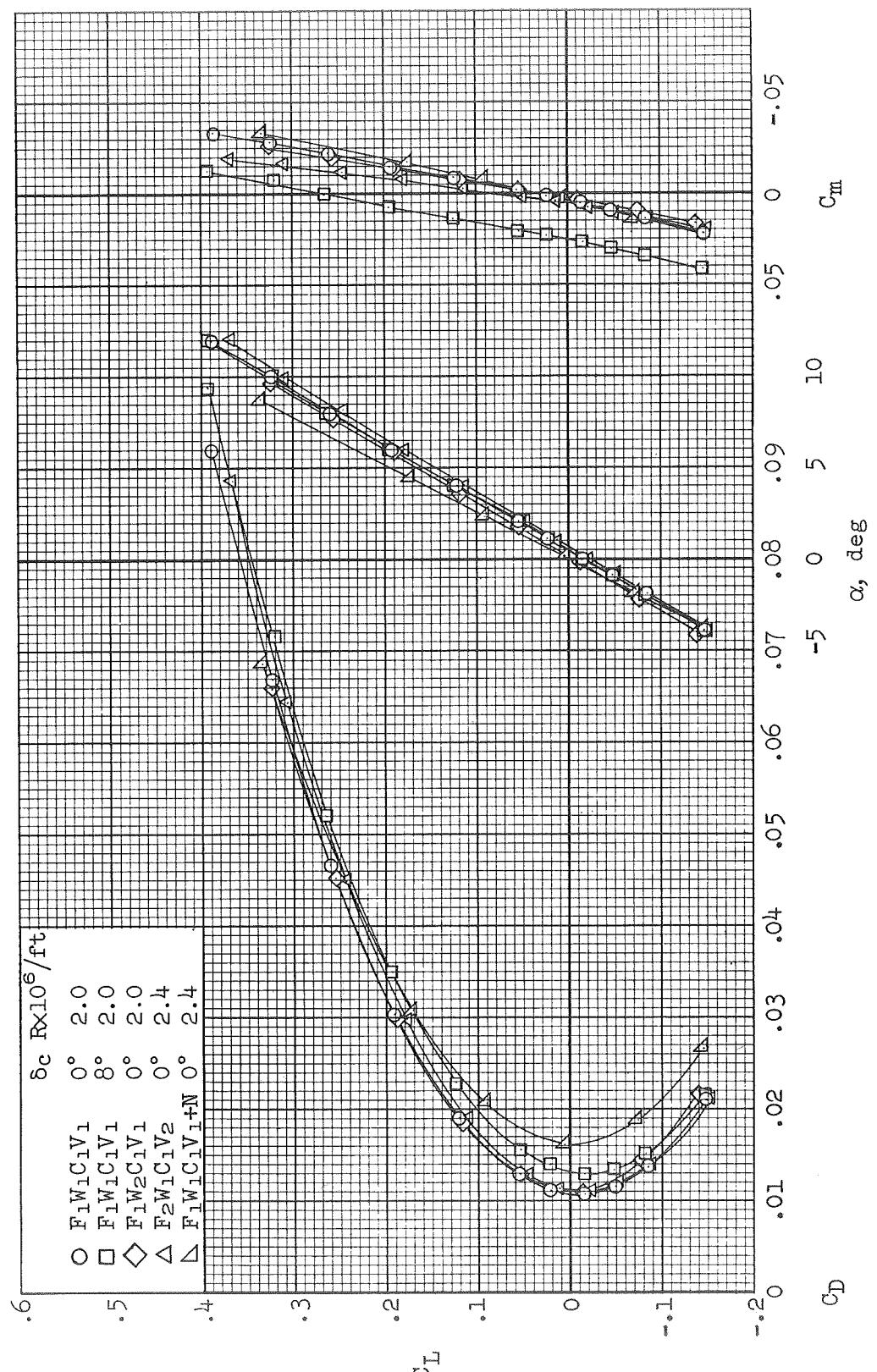
(d)  $M = 1.60$ 

Figure 3.- Continued.



(e)  $M = 2.00$

Figure 3.- Continued.

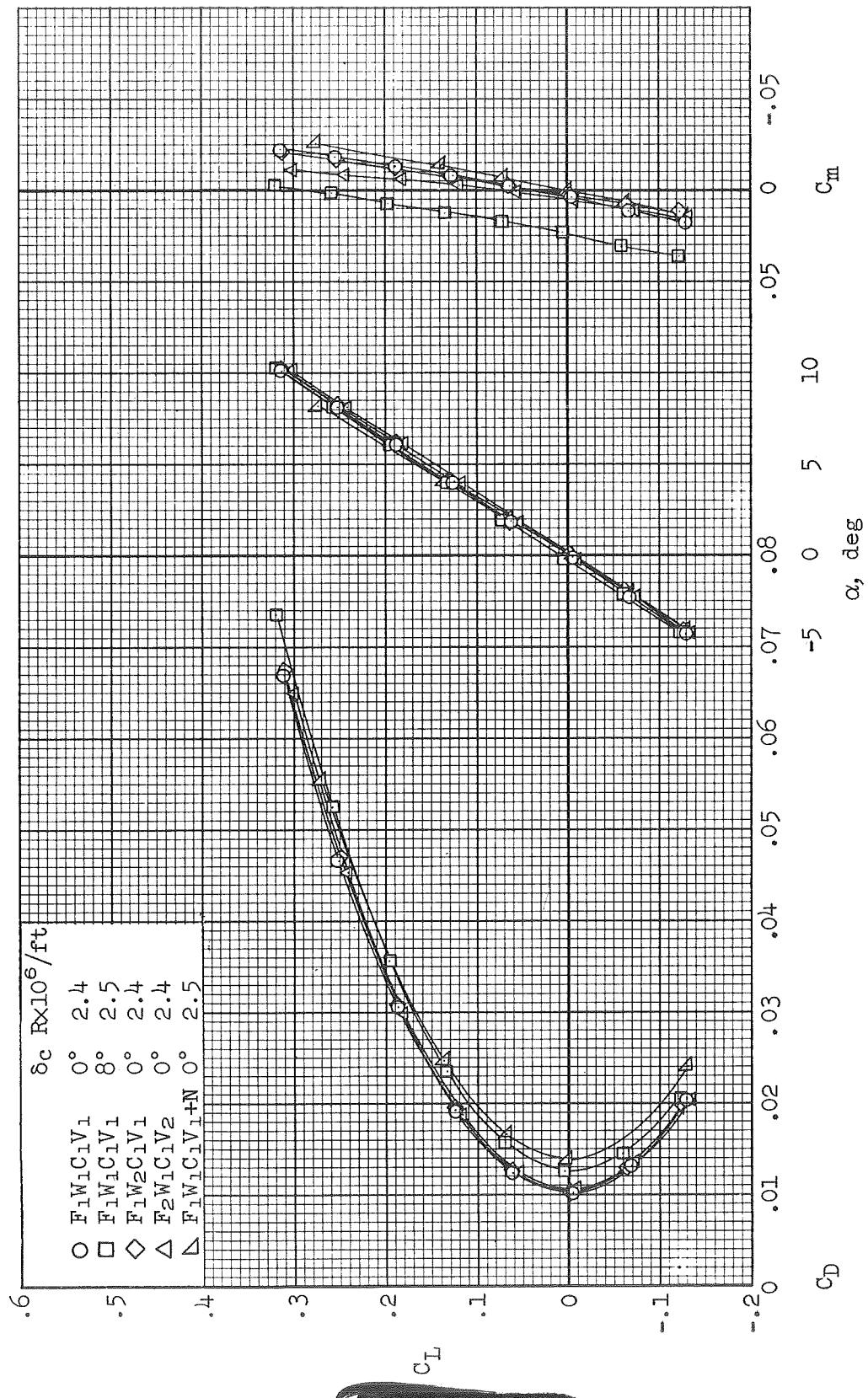


Figure 3.- Continued.  
(f)  $M = 2.51$

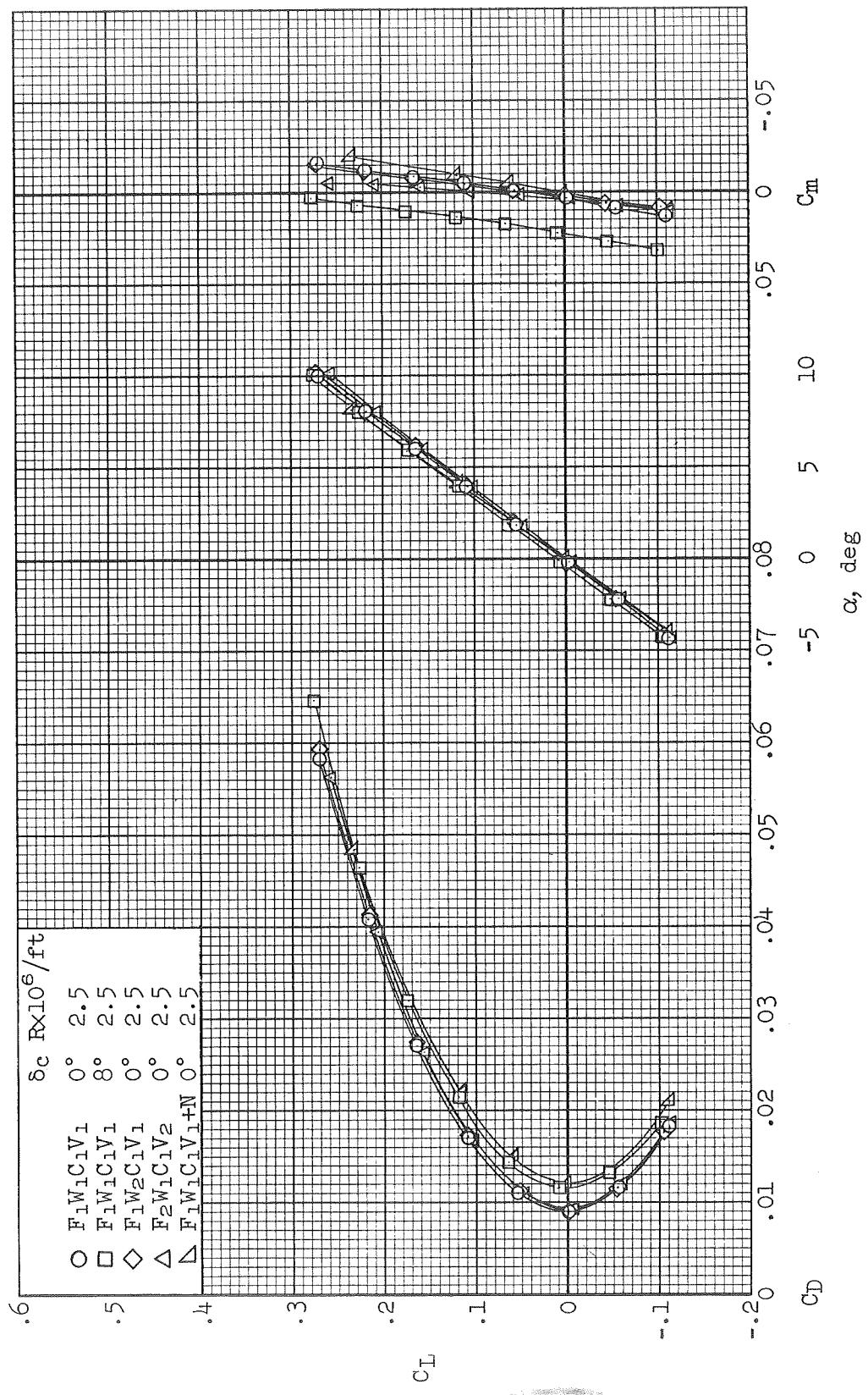
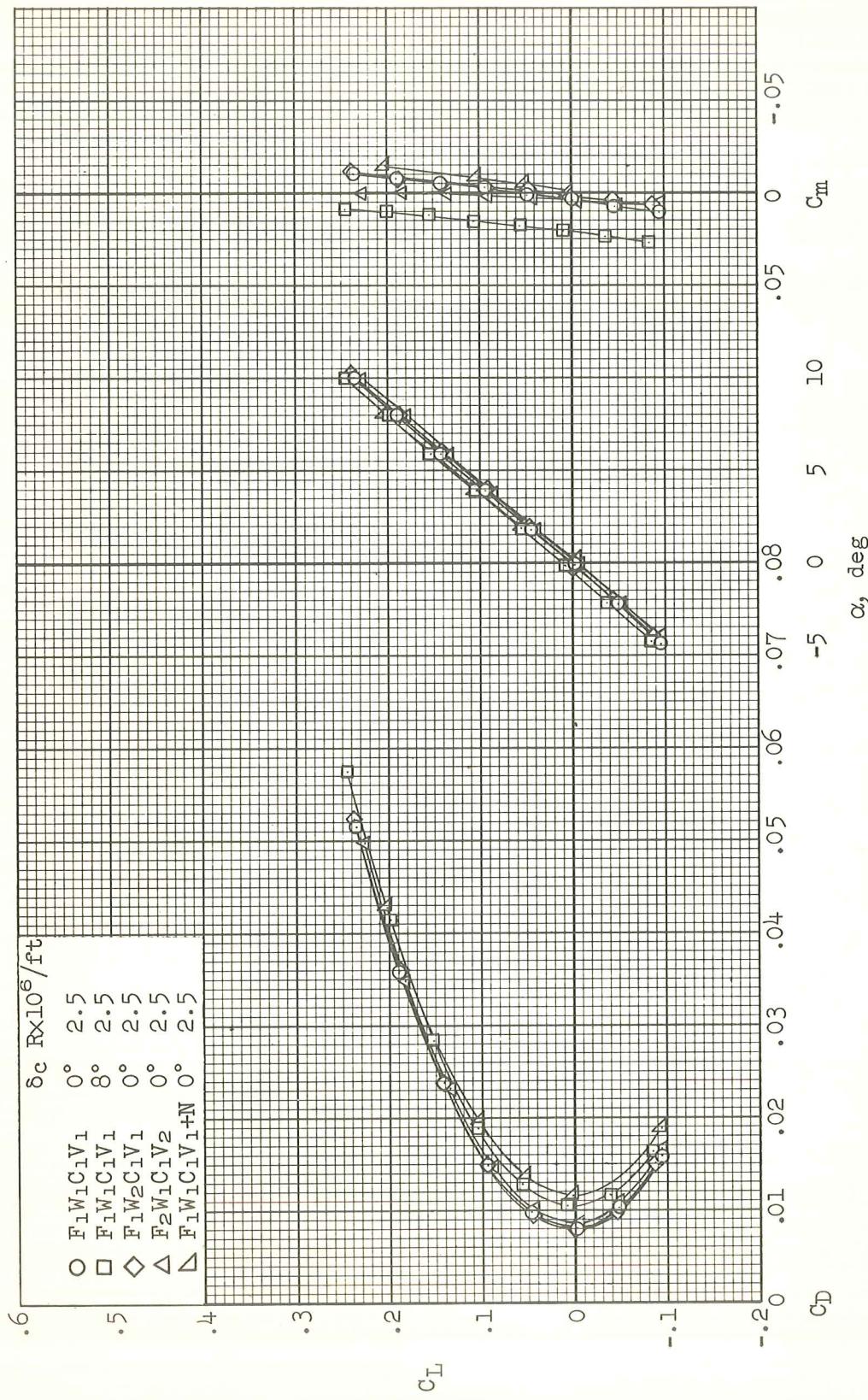


Figure 3. -- Continued.  
(g)  $M = 3.00$

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(h)  $M = 3.50$

Figure 3.- Concluded.

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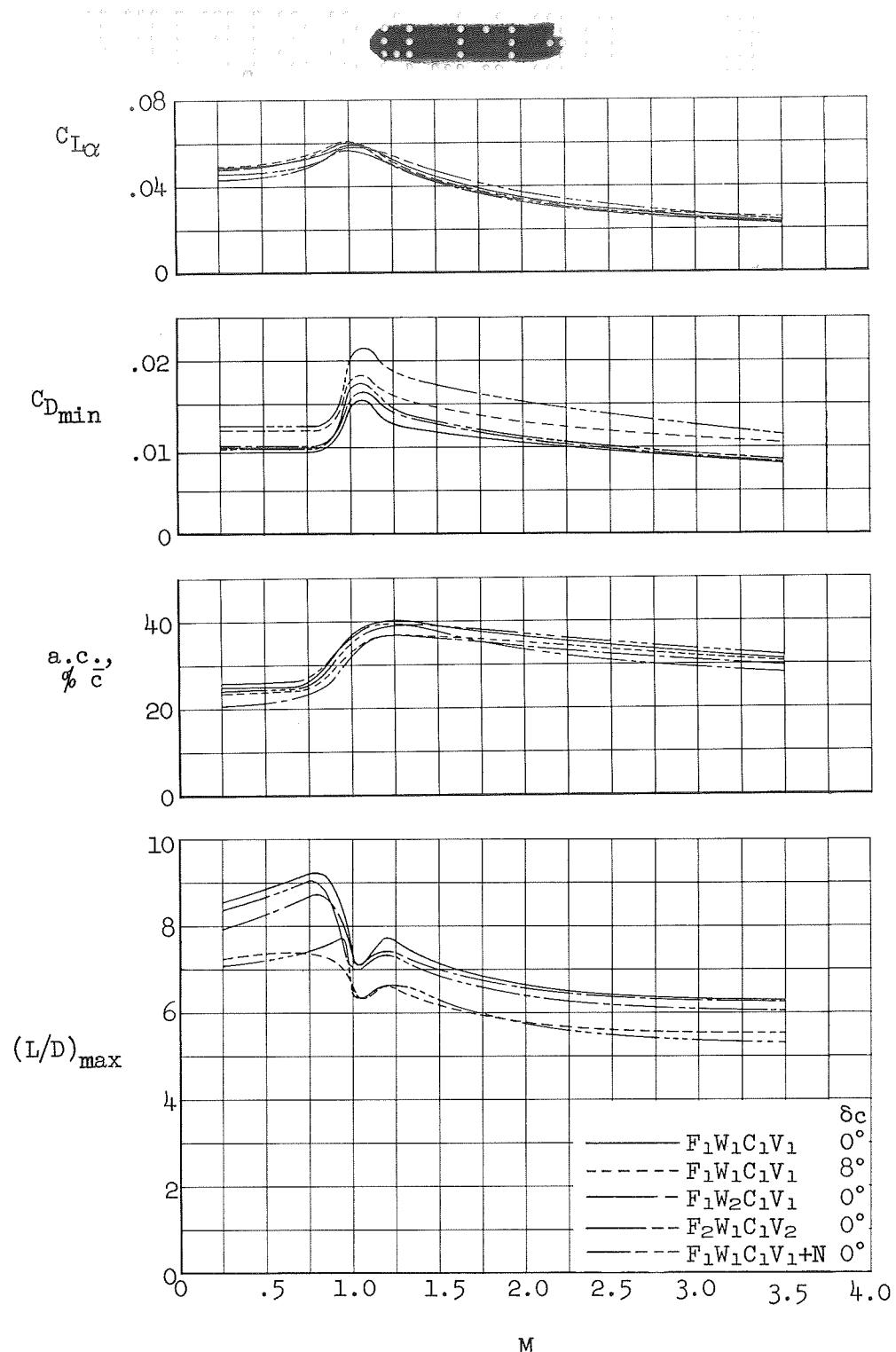


Figure 4.- Variation of lift-curve slope, minimum drag coefficient, aerodynamic center and maximum lift-drag ratio, as a function of Mach number for various model configurations. Reynolds number varies from  $2.0 \times 10^6/\text{ft}$  to  $3.0 \times 10^6/\text{ft}$ .

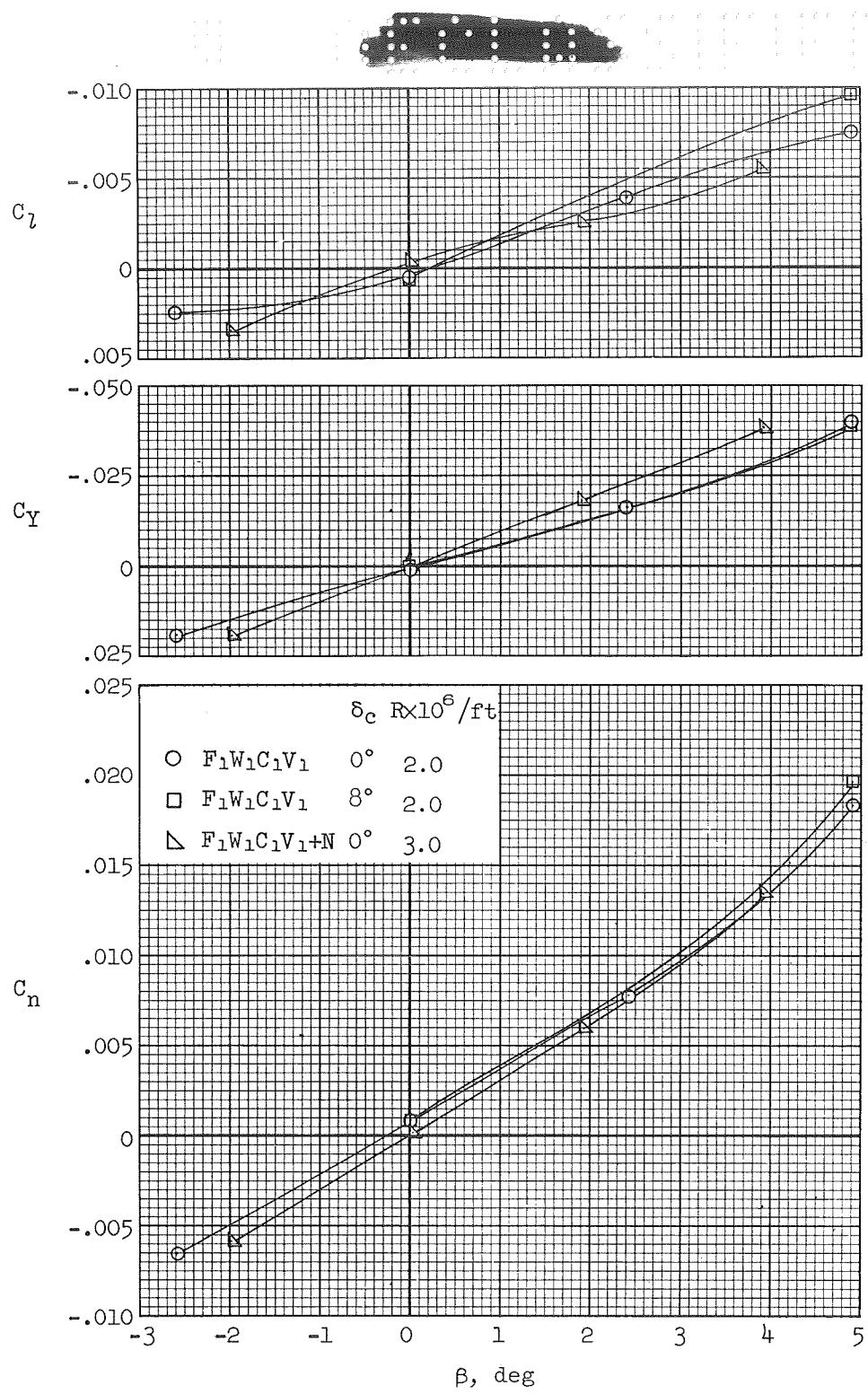
(a)  $M = 0.65$ 

Figure 5.- Rolling-moment, side-force, and yawing-moment characteristics at  $3^\circ$  angle of attack.

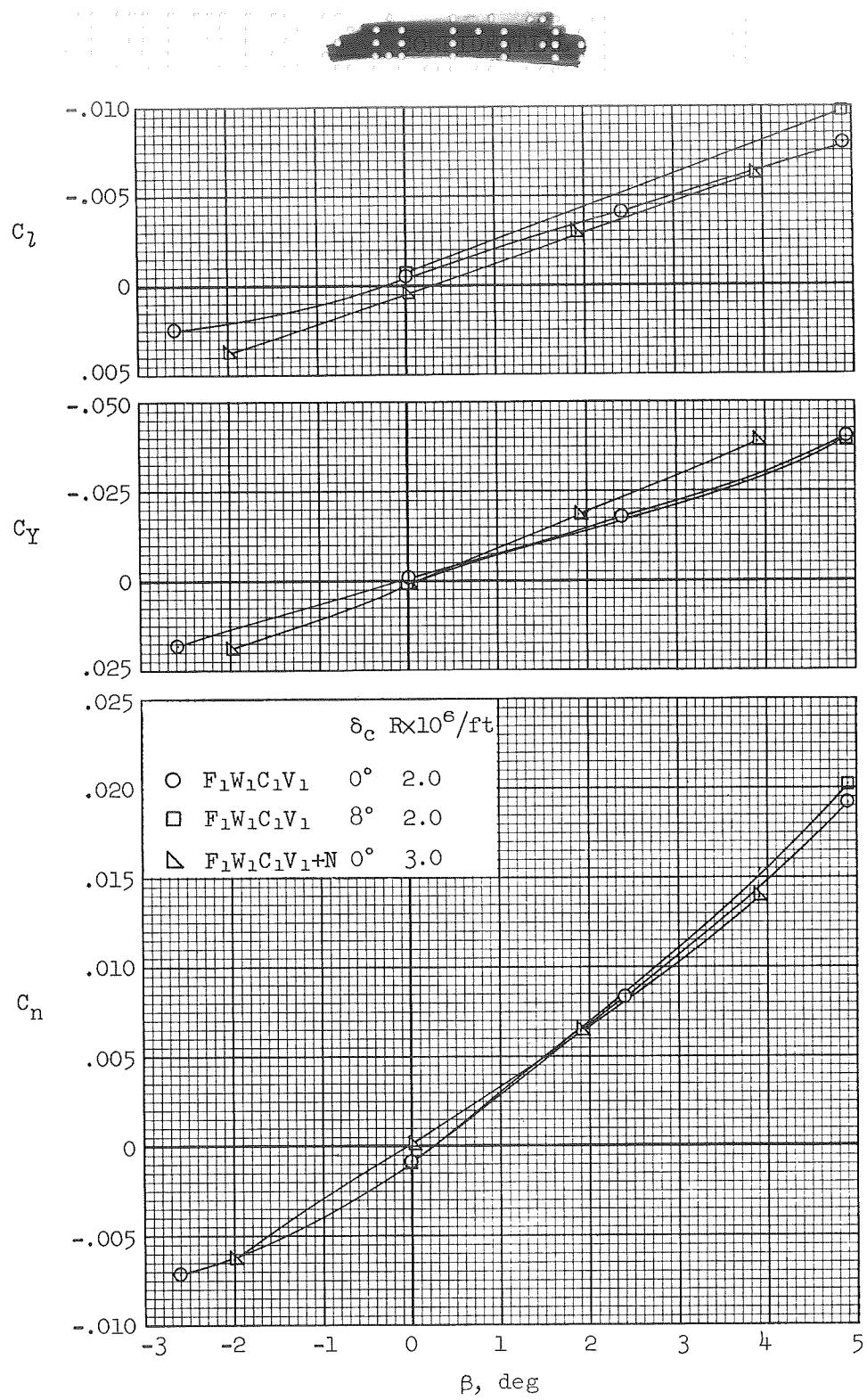
(b)  $M = 0.85$ 

Figure 5.- Continued.

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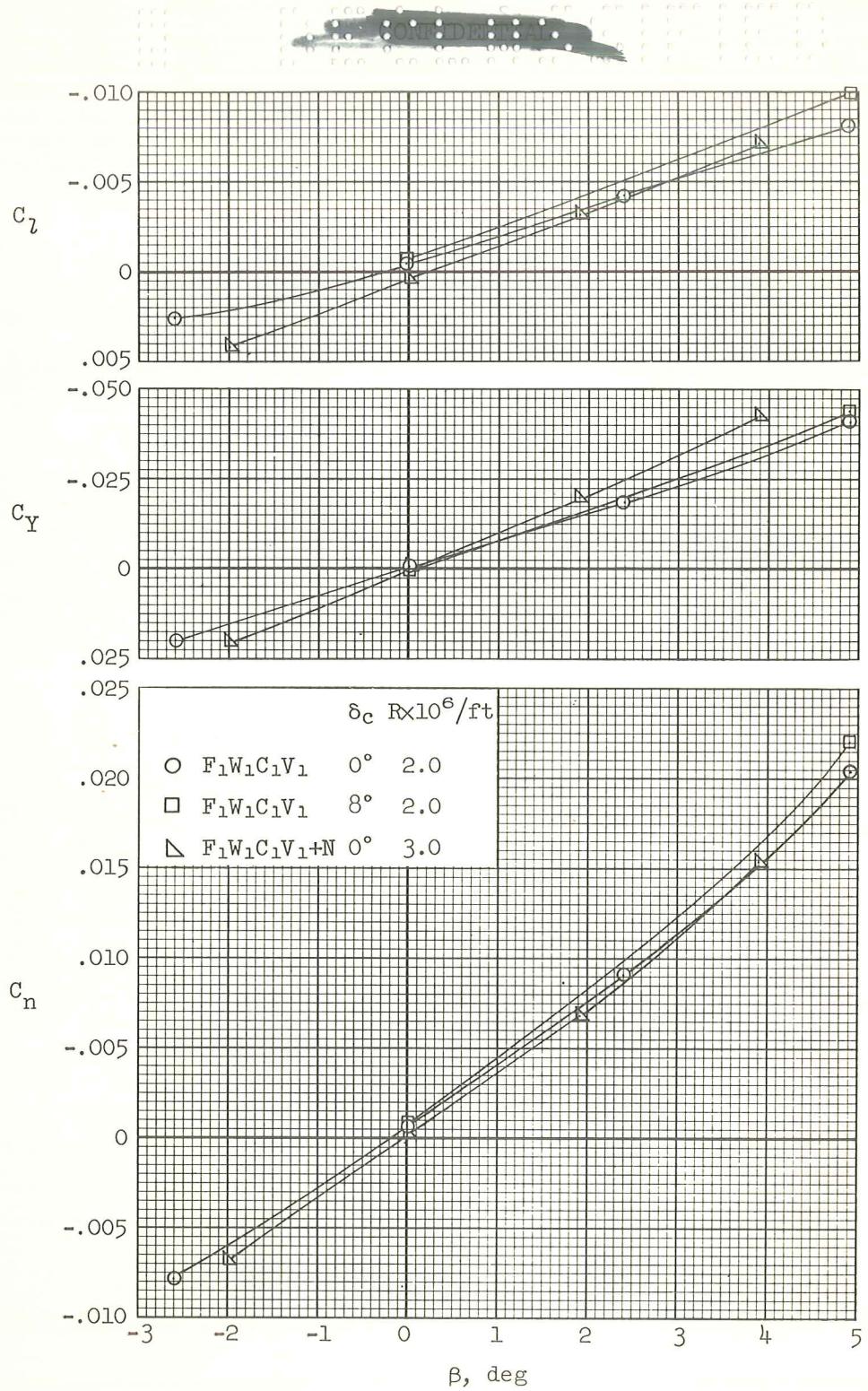
(c)  $M = 1.00$ 

Figure 5.- Continued.

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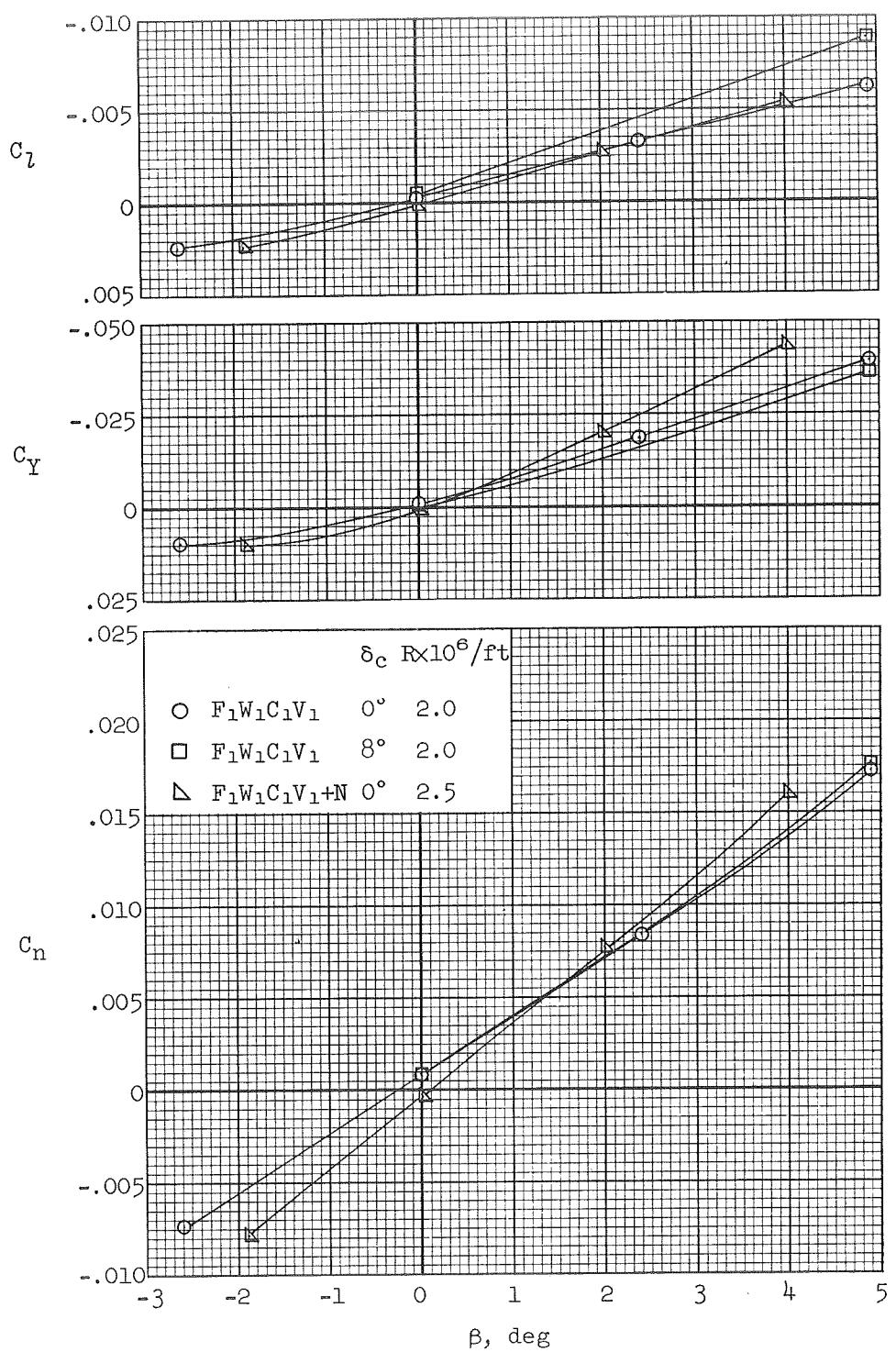
(d)  $M = 1.60$ 

Figure 5.- Continued.

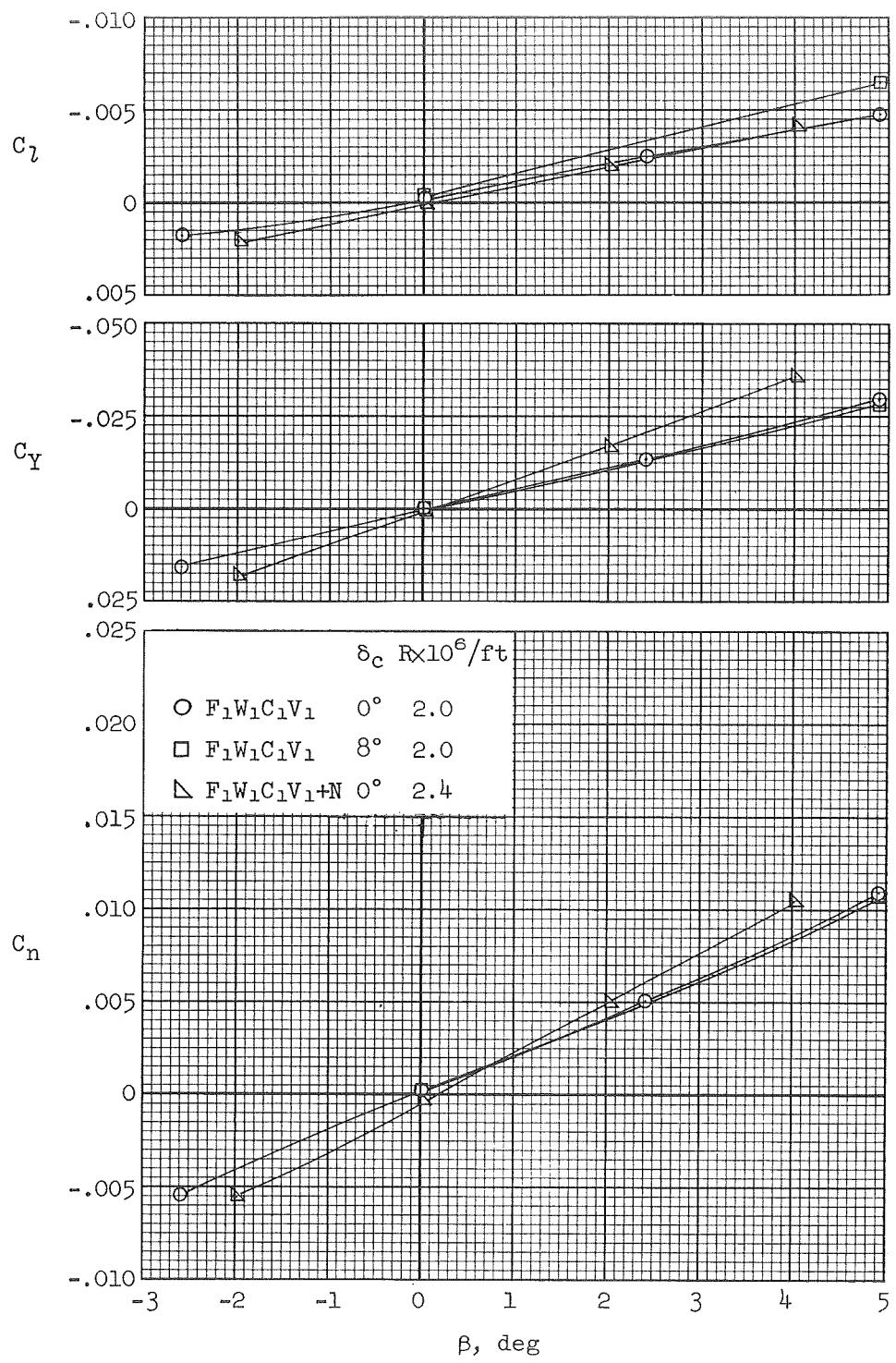
(e)  $M = 2.00$ 

Figure 5.- Continued.

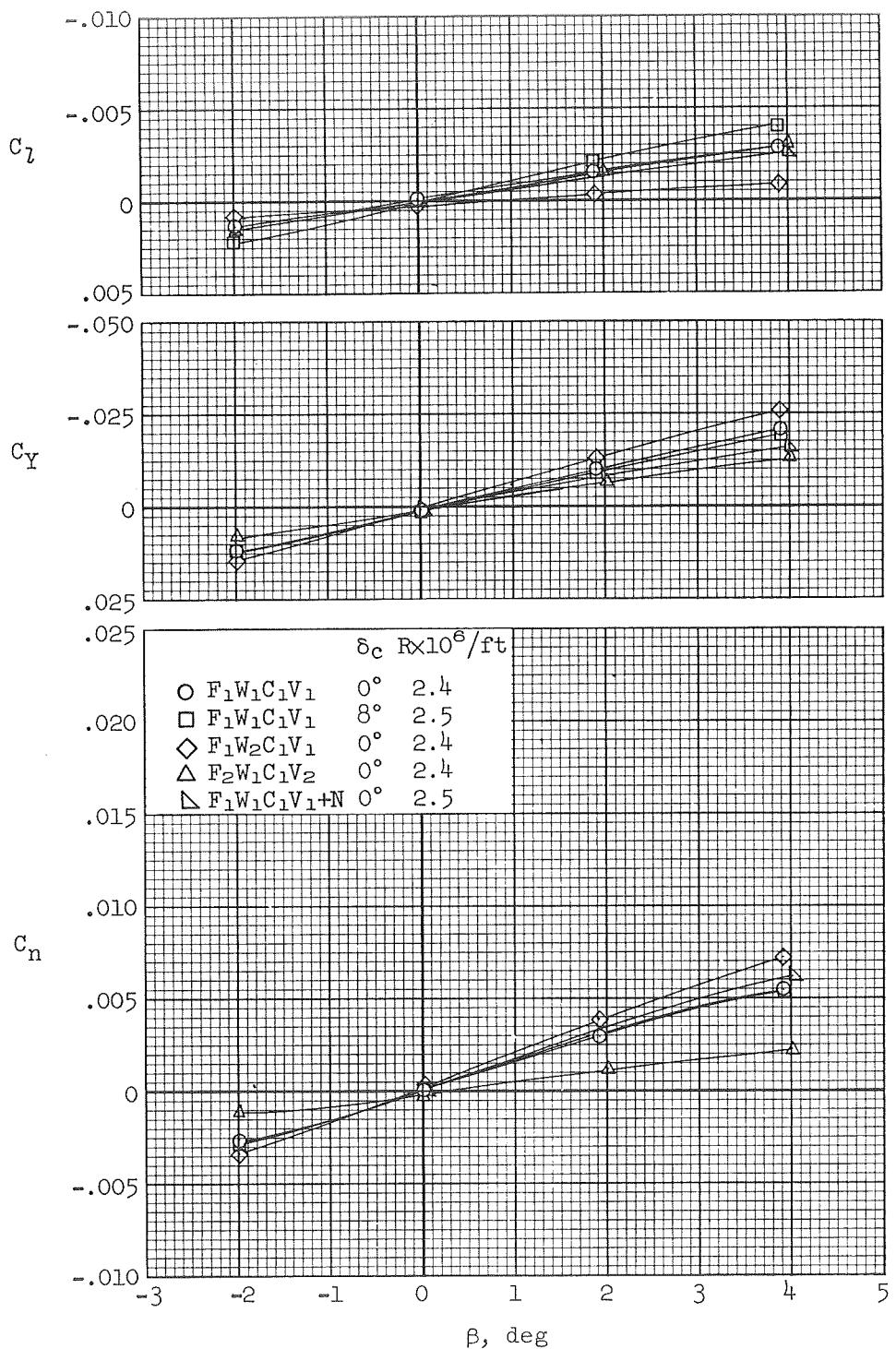
(f)  $M = 2.51$ 

Figure 5.- Continued.

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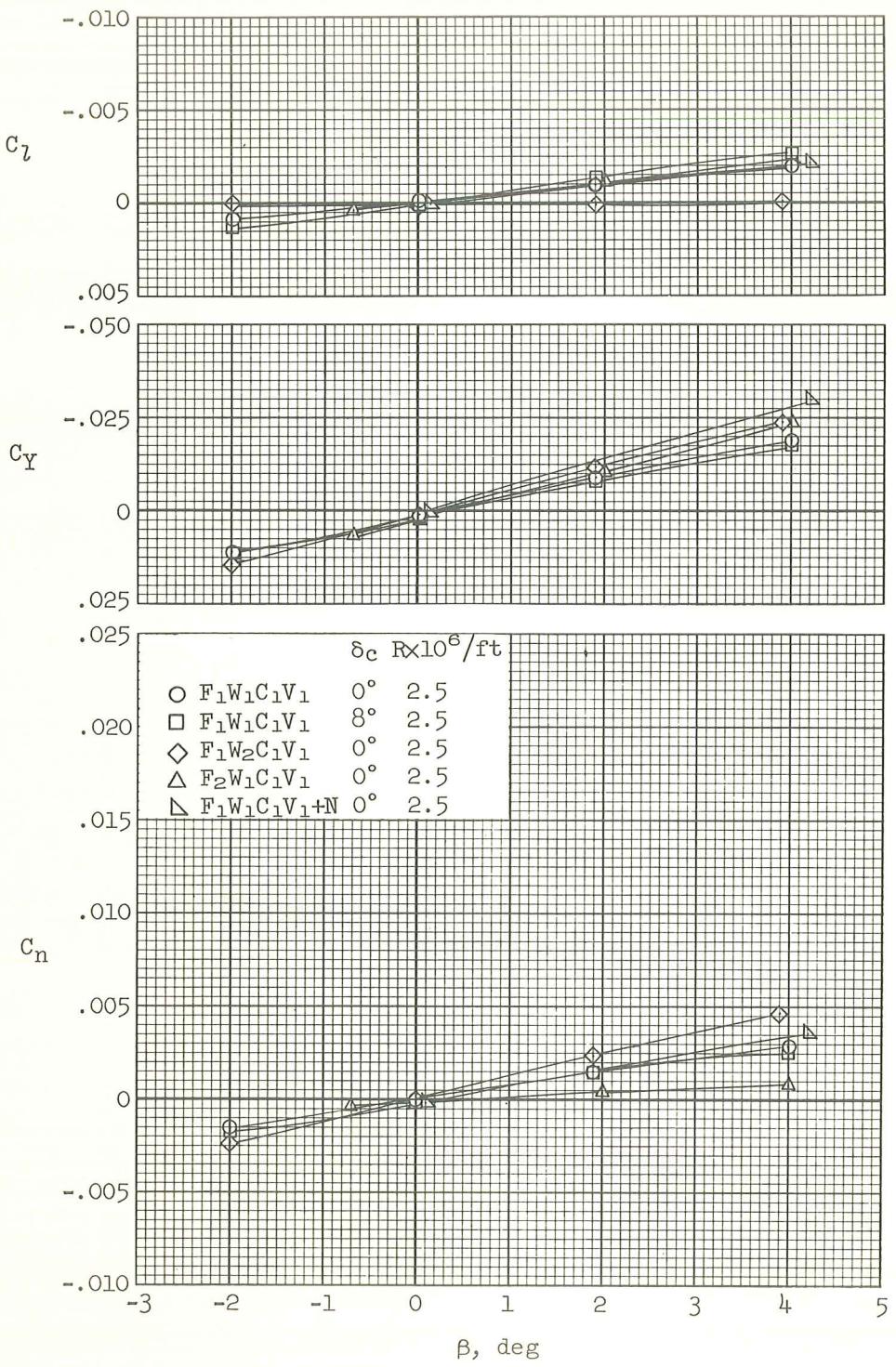
(g)  $M = 3.00$ 

Figure 5.- Continued.

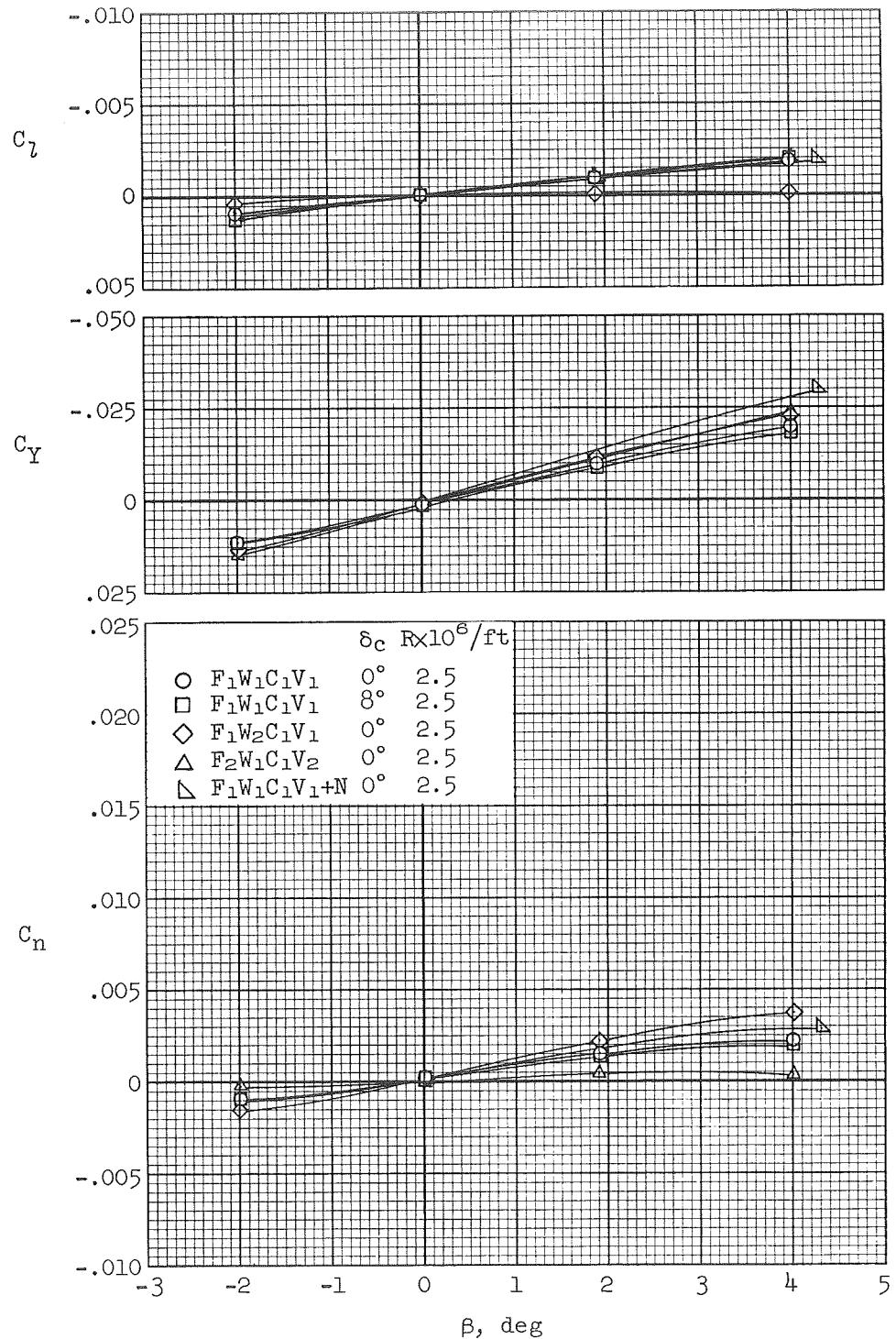
(h)  $M = 3.50$ 

Figure 5.- Concluded.

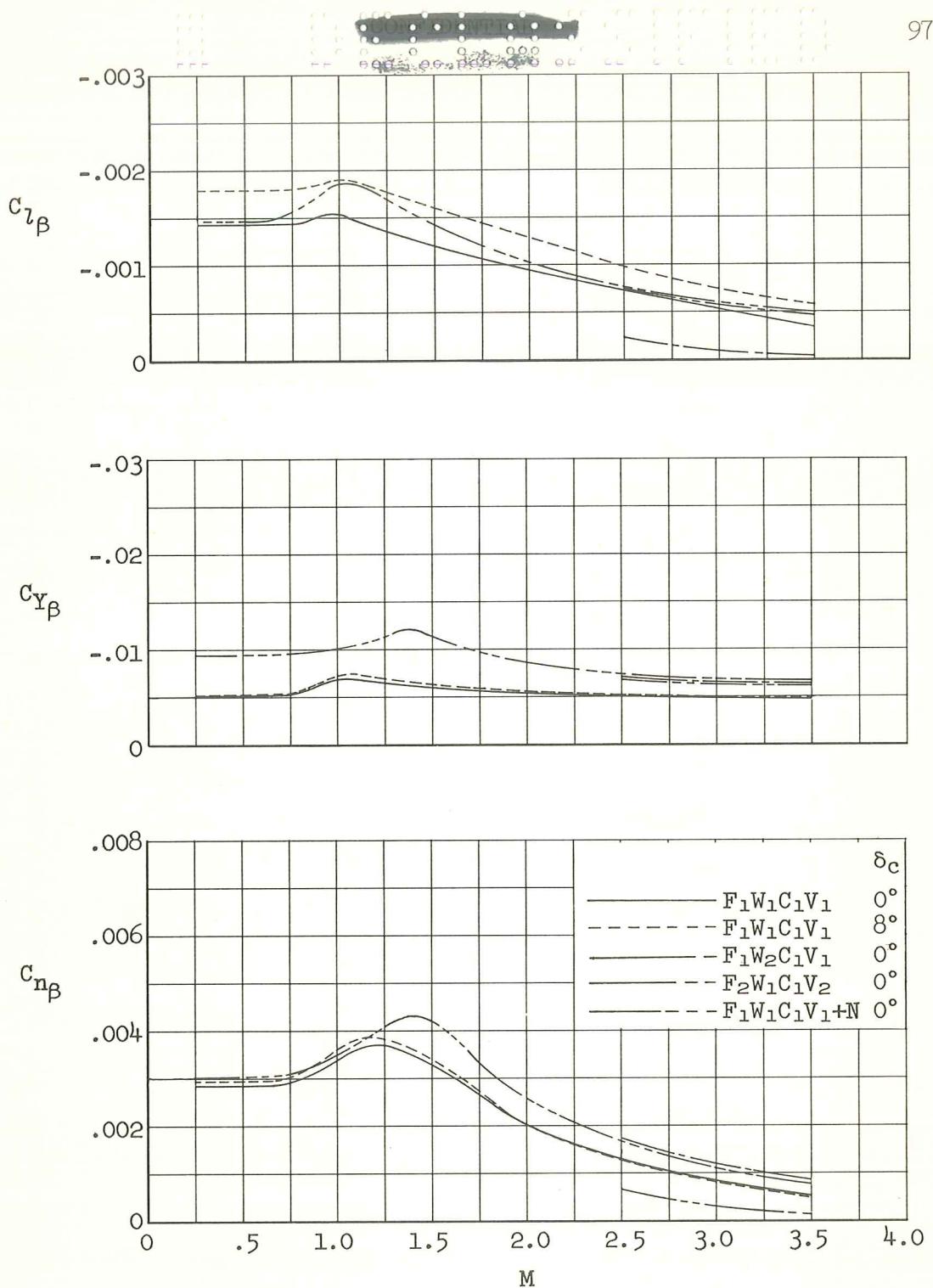


Figure 6.- Variation of rolling-moment, side-force, and yawing-moment derivatives as a function of Mach number for various model configurations at  $3^\circ$  angle of attack. Reynolds number varies from  $2.0 \times 10^6/\text{ft}$  to  $3.0 \times 10^6/\text{ft}$ .

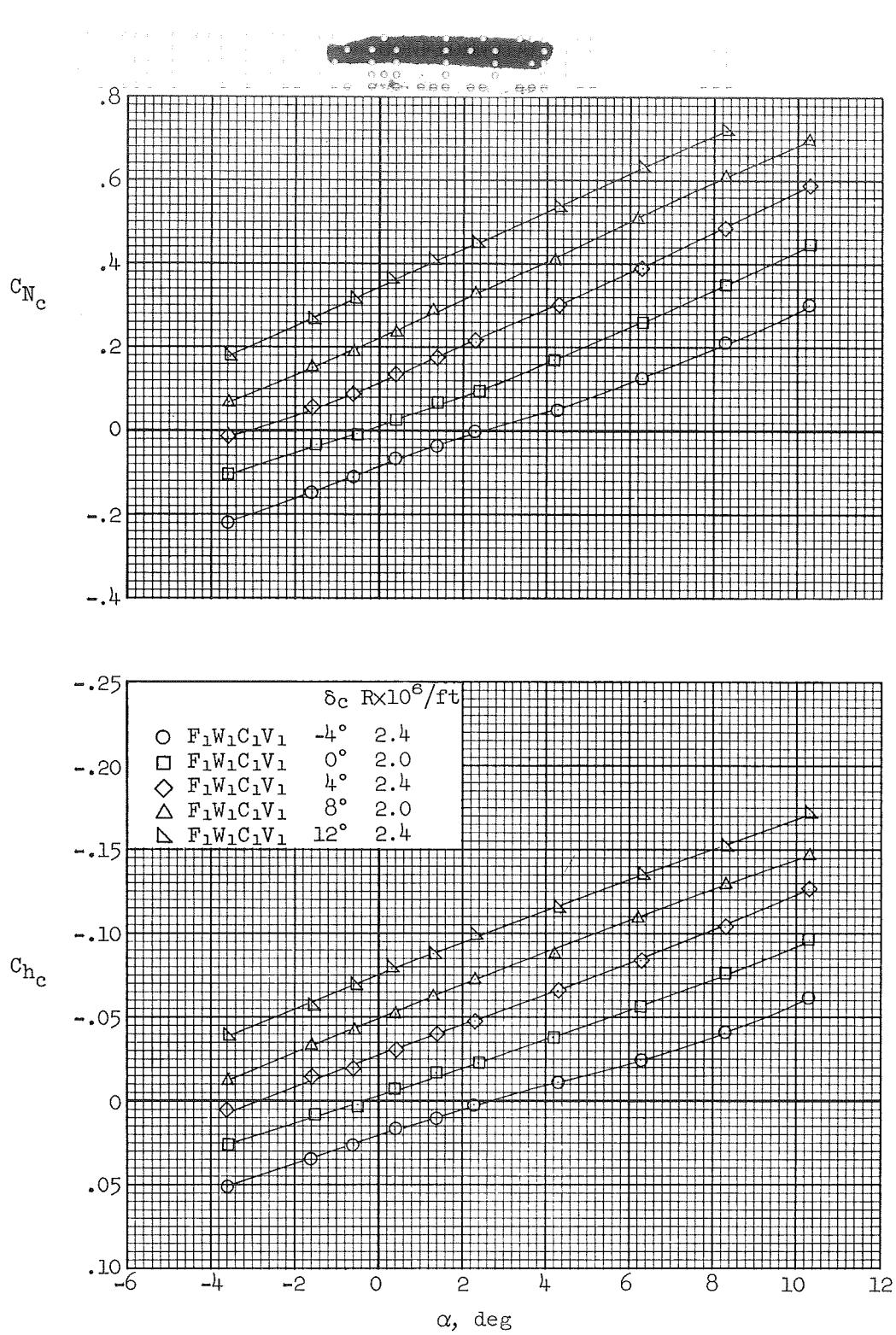
(a)  $M = 0.65$ 

Figure 7.- Variation of canard normal-force and hinge moment coefficients as a function of angle of attack at constant deflection angles.

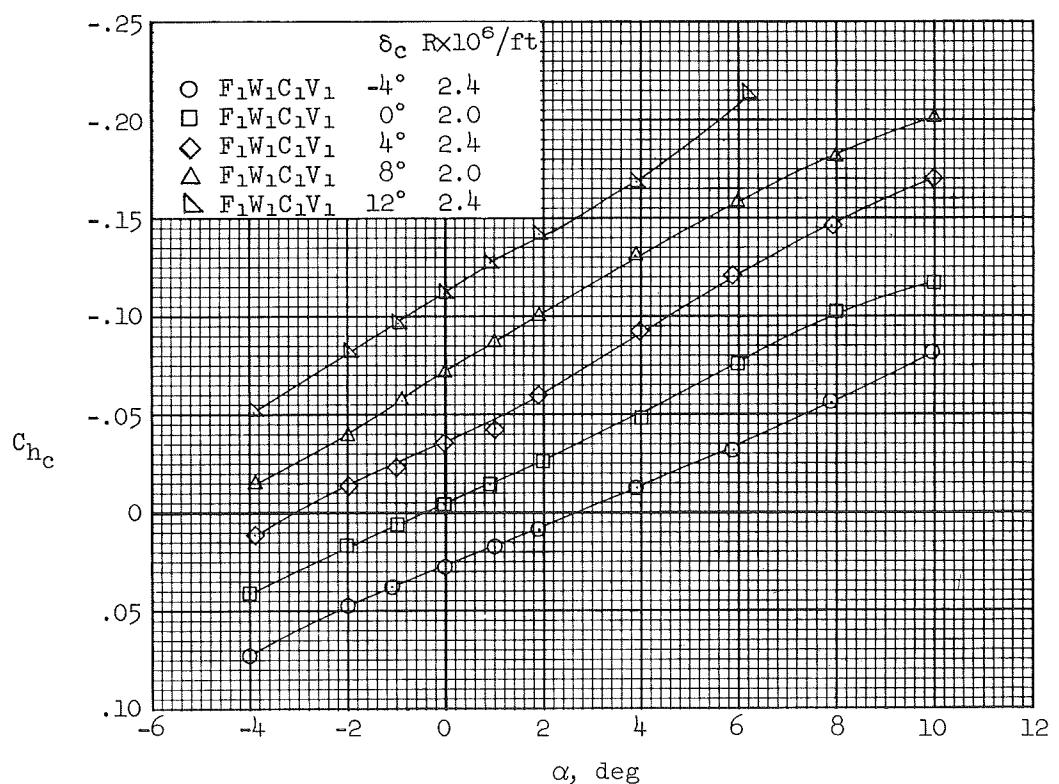
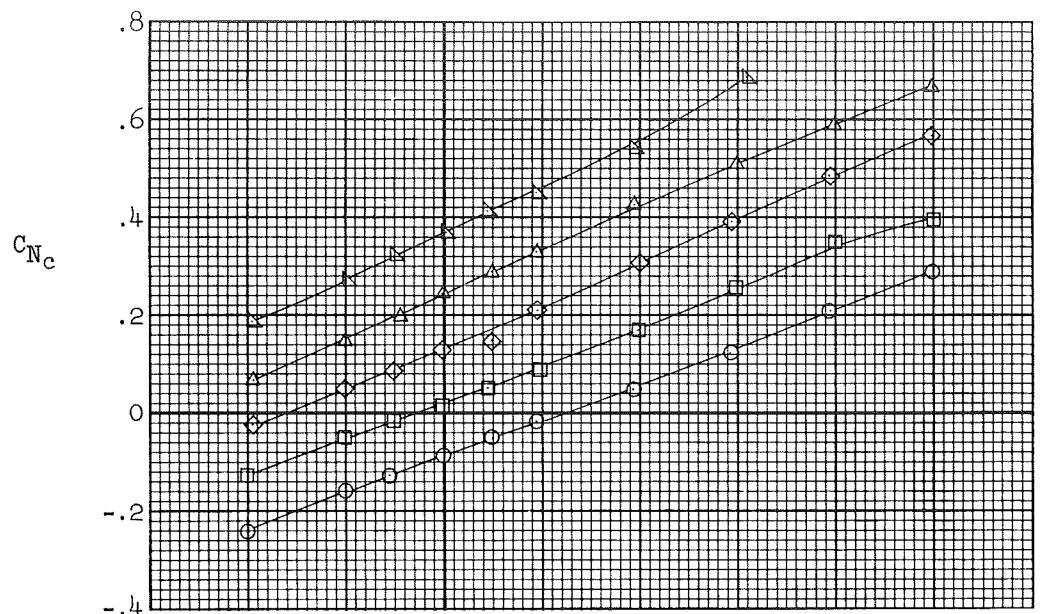
(b)  $M = 1.00$ 

Figure 7.- Continued.

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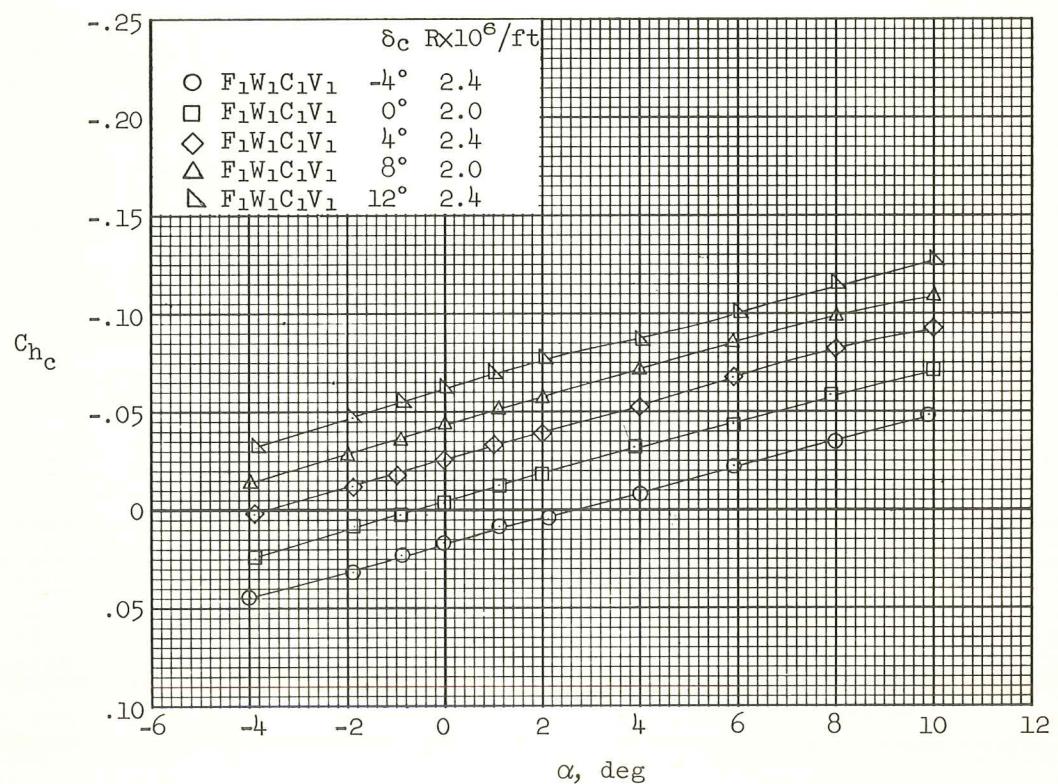
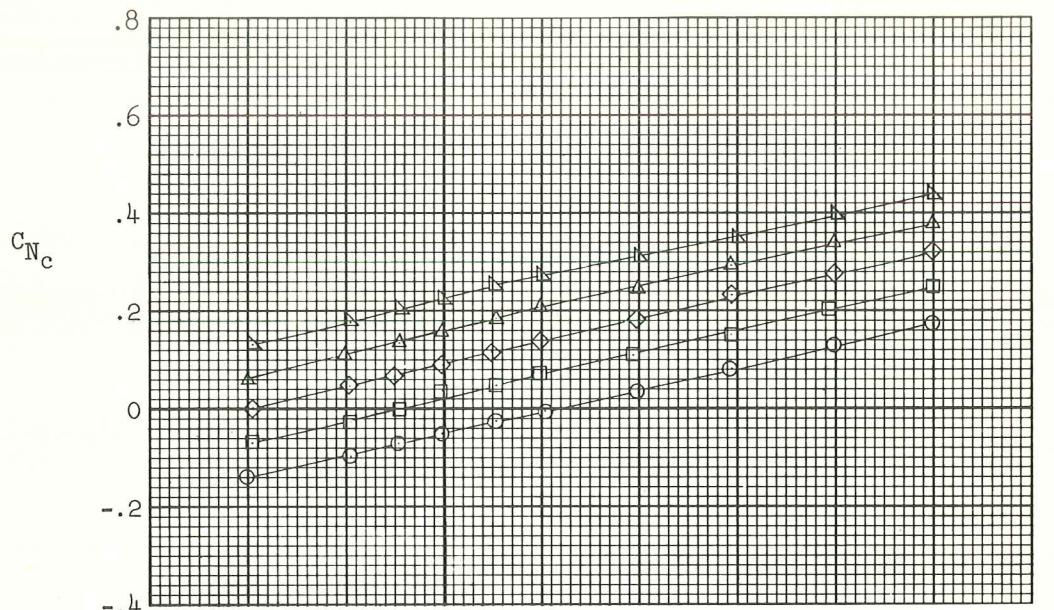
(c)  $M = 2.00$ 

Figure 7. - Continued.

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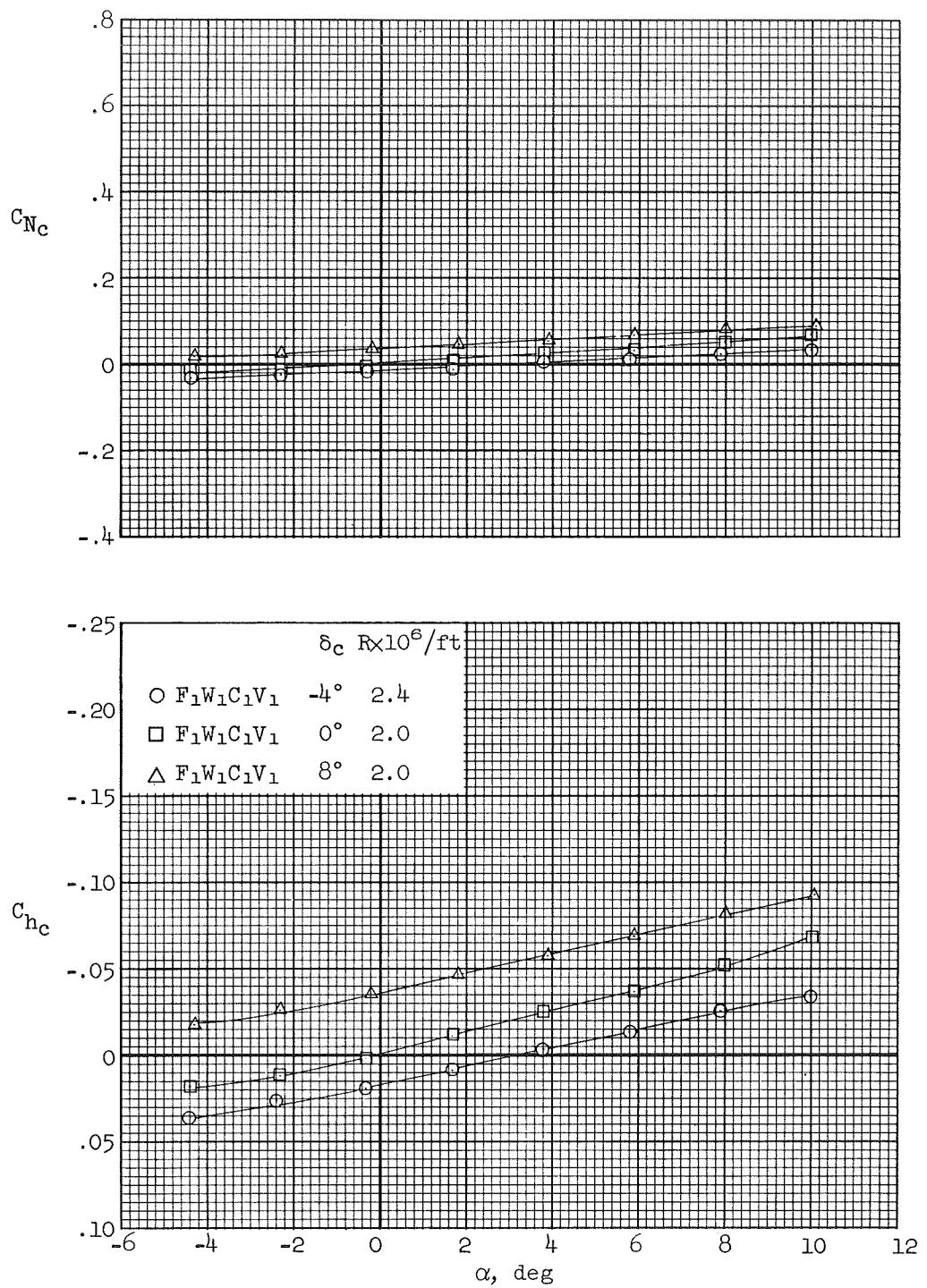


Figure 7.- Concluded.

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